



Drinking Water Surveillance Program

**ST. THOMAS
(ELGIN)
WATER SUPPLY
SYSTEM**

Annual Report 1988



Ontario

Environment
Environnement

Jim Bradley, Minister

ISSN 0840-5255

91-02673/

ST. THOMAS (ELGIN)
WATER SUPPLY SYSTEM

DRINKING WATER SURVEILLANCE
PROGRAM

ANNUAL REPORT 1988

FEBRUARY 1990



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EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM

ST. THOMAS (ELGIN) WATER SUPPLY SYSTEM 1988 ANNUAL REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario is a monitoring program providing immediate, reliable, current information on drinking water quality. The DWSP officially began in April 1986 and is designed to eventually include all municipal supplies in Ontario. Currently, 52 plants are being monitored.

The St. Thomas (Elgin) Water Treatment Plant is a conventional treatment plant which treats water from Lake Erie. The process consists of coagulation, flocculation, sedimentation, filtration, disinfection and fluoridation. This plant has a design capacity of $90.9 \times 1000 \text{ m}^3/\text{day}$ and serves a population of approximately 54,500.

Water samples from the raw, treated and two distribution sites were taken on a monthly basis. The St. Thomas (Elgin) Water Treatment Plant was sampled, for approximately 160 parameters, monthly during 1988. Parameters were divided into the following groups: Bacteriological, Inorganic and Physical (Laboratory Chemistry, Field Chemistry and Metals) and Organic (Chloroaromatics, Chlorophenols, Pesticides and PCB, Phenolics, Polynuclear Aromatic Hydrocarbons, Specific Pesticides and Volatiles). Chlorophenols and Specific Pesticides were analysed in June and November only. A summary of results is shown in Table 1.

Inorganic and Physical parameters were below any applicable health related ODWOS.

Of a total of approximately 110 Organic parameters tested for on a monthly basis, none exceeded health related guidelines.

During 1988 the DWSP sampling results indicated that the St. Thomas (Elgin) Water Supply System produced good quality water at the plant and this quality was maintained in the distribution system.

TABLE 1

DRINKING WATER SURVEILLANCE PROGRAM ST THOMAS (ELGIN WSS)

SUMMARY TABLE BY SCAM

SCAM	RAW		TREATED		SITE 1		SITE 2					
	TESTS	POSITIVE %POSITIVE	TESTS	POSITIVE %POSITIVE	TESTS	POSITIVE %POSITIVE	TESTS	POSITIVE %POSITIVE				
BACTERIOLOGICAL	43	37	86	44	9	20	43	5	11	43	8	18
CHEMISTRY (FLD)	36	36	100	72	72	100	143	143	100	144	144	100
CHEMISTRY (LAB)	246	203	82	215	142	66	420	324	77	414	324	78
METALS	287	172	59	264	116	43	539	290	53	564	301	53
CHLOROBROMATICS	168	0	0	168	0	0	154	0	0	154	0	0
CHLOROPHENOLS	12	0	0	12	0	0	0	0	0	0	0	0
PAH	204	0	0	204	0	0	0	0	0	0	0	0
PESTICIDES & PCB	396	0	0	396	0	0	375	0	0	362	0	0
PHENOLICS	12	3	25	12	2	16	0	0	0	0	0	0
SPECIFIC PESTICIDES	57	0	0	56	0	0	0	0	0	0	0	0
VOLATILES	258	1	0	258	36	13	258	36	13	258	36	13
TOTAL	1719	452	1701	377	1932	798	1939	813				

NO HEALTH-RELATED GUIDELINES WERE EXCEEDED

A POSITIVE VALUE DENOTES THAT THE RESULT IS GREATER THAN THE STATISTICAL LIMIT OF DETECTION AND IS QUANTIFIABLE

A '0' INDICATES THAT NO SAMPLE WAS TAKEN

DRINKING WATER SURVEILLANCE PROGRAM

ST.THOMAS(ELGIN) WATER SUPPLY SYSTEM

1988 ANUAL REPORT

INTRODUCTION

The Drinking Water Surveillance Program (DWSP) for Ontario is a monitoring program providing immediate, reliable, current information on drinking water quality. The DWSP officially began in April 1986 and is designed to eventually include all municipal supplies in Ontario. Currently, 52 plants are being monitored.

The DWSP was initiated at the St.Thomas (Elgin) Water Supply System in March 1987. An annual report was published for 1987 (ISSN 0840-5255).

PLANT DESCRIPTION

The St.Thomas (Elgin) Water Supply System uses a conventional treatment plant which treats water from Lake Erie. The process consists of coagulation, flocculation, sedimentation, filtration, disinfection and fluoridation. Powdered activated carbon is added for taste and odour control. This plant has a rated capacity of $45 \times 1000 \text{ m}^3/\text{day}$ and flows for day of sampling ranging from $12.3 \times 1000 \text{ m}^3/\text{day}$ to $45.5 \times 1000 \text{ m}^3/\text{day}$. It serves a population of

approximately 54,500.

The plant location is shown in Figure 1. Plant process details, in a block schematic, are shown in Figure 2. General plant information is presented in Table 2.

METHODS

Water samples were obtained from four DWSP approved locations:

- i) Plant Raw - The water originated from the raw water header well prior to ant chemical addition and was sampled through a stainless steel sample line. The sample tap is located near the flash mixers.
- ii) Plant Treated - The water originated from the highlift discharge after addition of all treatment chemicals and was sampled through a stainless steel sample line. The sample tap is located near the highlift pumps.
- iii) Distribution System - Site 1 - This house is approximately 0.2 kilometers from the plant. Water was sampled through a copper sample line at the laundry tub in the basement.
- iv) Distribution System - Site 2 - This house is approximately 16 kilometers from the plant. Water was sampled through a copper sample line at the laundry tub in the basement.

Sample lines in the plant were flushed prior to sampling to ensure that the water obtained was indicative of its origin and not residual water standing in the sample line.

At each distribution system location two types of samples were obtained: a standing and a free flow. The standing sample consisted of water that had been in the household plumbing and service connection for a minimum of six hours. These samples are used to make an assessment of the amount by which the levels of inorganic compounds and metals may be changed on standing due to leaching from (or deposition on) the plumbing system. The only analyses carried out on the standing samples therefore, are General Chemistry and Metals. The free flow sample represented fresh water from the distribution main that had been flowing at the sample tap for five minutes before being sampled.

Attempts were made to capture the same block of water at each sampling point by taking the retention time into consideration. The retention time was calculated by dividing the volume of water between the two sampling points by the sample day flow. For example, if it was determined that the retention time within the plant was five hours then there would be a five hour interval between the raw and treated sampling. Similarly, if it was estimated that it took approximately one day for the water to

FIGURE 1

DRINKING WATER SURVEILLANCE PROGRAM

SITE LOCATION MAP

ELGIN WATER SUPPLY SYSTEM



FIGURE 2

ELGIN (ST THOMAS) WATER TREATMENT PLANT

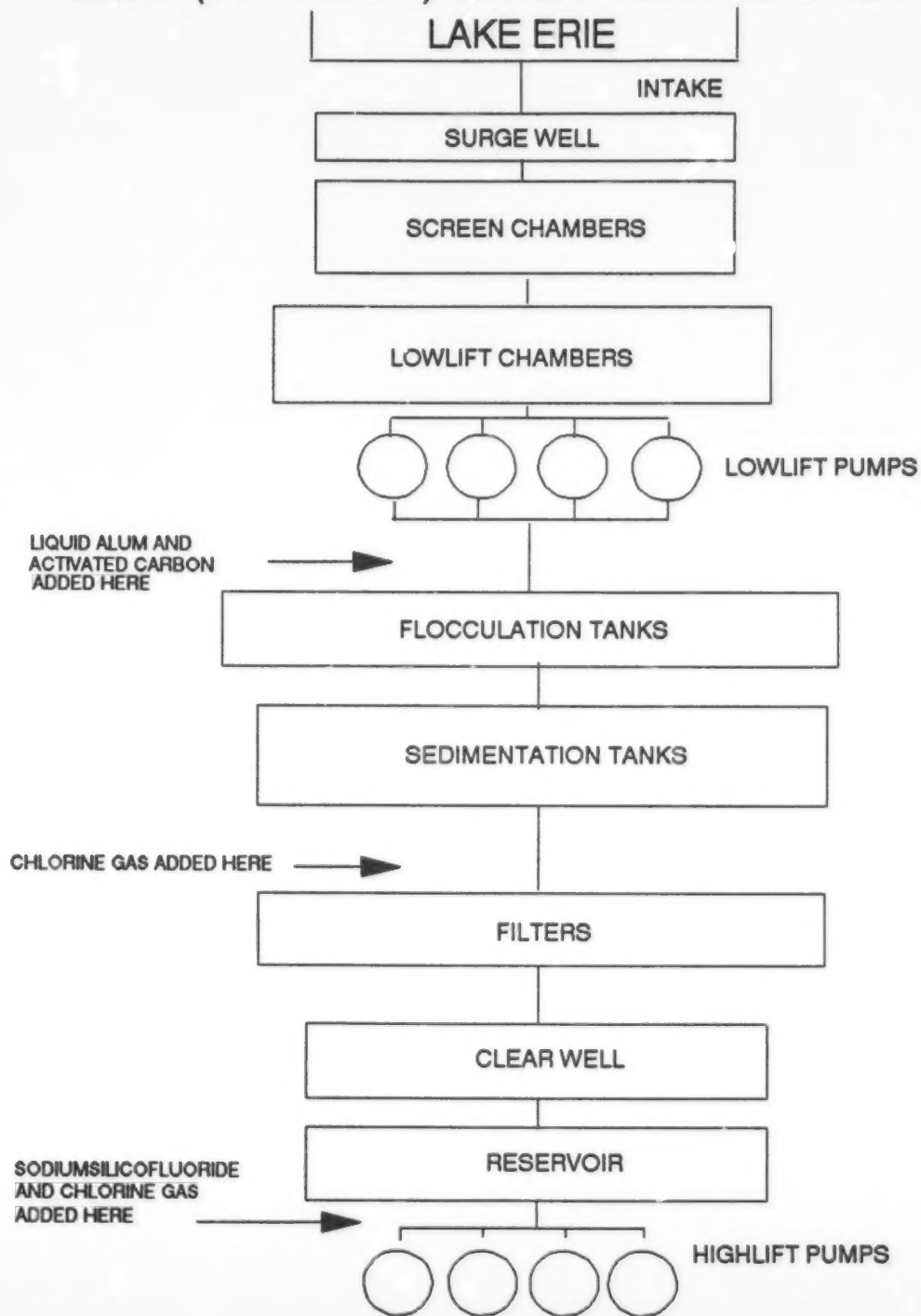


TABLE 2

DRINKING WATER SURVEILLANCE PROGRAM ANNUAL REPORT

GENERAL INFORMATION

ELGIN/ST THOMAS WATER SUPPLY SYSTEM

LOCATION: BOX 514
ST THOMAS, ONTARIO
COUNTY ROAD 24
(519-782-3101)

SOURCE: RAW WATER SOURCE - LAKE ERIE

RATED CAPACITY: 45 (1000 M3/DAY)

OPERATION: MINISTRY OF THE ENVIRONMENT

PLANT SUPERINTENDENT: R. POWER

MINISTRY REGION: SOUTHWESTERN

DISTRICT OFFICER: MR. P. BOLGER

<u>MUNICIPALITY SERVED</u>	<u>POPULATION</u>
ST THOMAS	31,350
YARMOUTH TWP	7,927
BAYHAM TWP	3,922
SOUTHWOLD TWP	4,342
MALAHIDE TWP	5,257
VIENNA VILLAGE	282
PT. BURWELL VILLAGE	681
PT. BRUCE VILLAGE	421

travel from the plant to the distribution system site, this site would be sampled one day after the treated water from the plant.

Stringent DWSP sampling protocols were followed to ensure that all samples were taken in the same manner.

Sample day flow, treatment chemical dosages and Field Chemistry measurements such as Turbidity, Chlorine Residuals, pH and Temperature were recorded on the day of sampling and were entered on the DWSP data base as submitted.

RESULTS

The St.Thomas (Elgin) Water Supply System was sampled for approximately 160 parameters on a monthly basis. The Specific Pesticides and Chlorophenols scans were sampled in June and November only. Polynuclear Aromatic Hydrocarbons and Phenolics are only analysed in the raw and treated water from the plant.

As a result of an unforeseen emergency the laboratory capacity was exceeded and analysis for volatiles could not be carried out when the samples were received. Since analysis for volatiles is no longer valid after four weeks of storage, volatile results for February and March are not available.

Table 3 contains information on the sample day retention time, flow rate and treatment chemicals used and their associated dosages.

Table 4 is a summary break-down of the number of water samples analysed by parameter and by water type. The number of times that a positive or trace result was detected is also reported.

Positive denotes that the result is greater than the statistical limit of detection established by the Ministry of the Environment (MOE) laboratory staff and is quantifiable. Trace (<T) denotes that the level measured is greater than the lowest value detectable by the method but lies so close to the detection limit that it cannot be confidently quantified.

Table 5 presents the results for parameters detected on at least one occasion.

Table 6 lists all parameters analysed on DWSP.

Associated guidelines and detection limits are also supplied on tables 5 and 6. Parameters are listed alphabetically within each scan.

DISCUSSION

General

Water quality is judged by comparison with the Ontario Drinking Water Objectives (ODWOs) as defined in the 1984 publication (ISBN

0-7743-8985-0). The Province of Ontario has health related and aesthetic objectives for 49 parameters, these are currently under review. When an ODWO is not available guidelines/limits from other agencies are consulted. The Parameters Listing System (PALIS) recently published (ISBN 0-7729-4461-X) by the MOE catalogues and keeps current over 1750 guidelines for 650 parameters from agencies throughout the world.

Although some of the parameters measured on DWSP may be present in the raw and treated water as a result of pollution, many of the compounds detected are naturally occurring or are treatment by-products.

The DWSP does not analyse for Taste and Odour or other biological water quality parameters, and can therefore not assess these aspects of the water supply.

As stated under Results, traces do not indicate quantifiable values, as defined by established MOE Laboratory analytical reporting protocols. While they can be useful in trend analysis or as confirmation of the presence of a specific contaminant that is repeatedly detected at these levels, the occasional finding of a trace level of a contaminant is not considered to be significant.

DISCUSSION OF GUIDELINES AND LIMITS THEREFORE, IS ONLY CONDUCTED ON POSITIVE RESULTS.

Bacteriology

Positive results for the Bacteriology scan were present twenty-two times in the treated and distributed water. The positive parameters were Standard Plate Count and Total Coliform Background. Results indicated generally good control of bacteriological quality in treated and distributed water.

Guidelines for bacteriological sampling and testing of a supply are developed to maintain a proper supervision of its bacteriological quality; the routine monitoring program usually requires the taking of multiple samples in a given system. Full interpretation of bacteriological quality cannot be made on the basis of single samples. Routine bacteriological monitoring, as outlined in the ODWOs is carried out by the operating authority.

Inorganic and Physical Parameters

Laboratory and Field Chemistry

The results for Laboratory Chemistry and Field Chemistry scans were below any applicable health related ODWOs.

It is desirable that the Temperature of drinking water be less than 15°C; the palatability of water is enhanced by its coolness. A temperature below 15°C will tend to reduce the growth of nuisance organisms and hence minimize associated taste, colour, odour and

corrosion problems. The temperature of the delivered water may increase in the distribution system due to the warming effect of the soil in late summer and fall and/or as a result of higher temperatures in the source water. The desired ODWO was exceeded eleven times in the treated water and free flow distributed water.

As part of the treatment plant process, Sodium Silicofluoride is added to the treated water (Table 3). Where fluoridation is practised, the fluoride concentration recommended in the ODWOs is 1.2 mg/L ,plus or minus 0.2 mg/L. Results for fluoride in Table 5 indicate that this level was not achieved in five samples, one treated and four from the distribution system.

The ODWOs indicate that a hardness level of between 80 and 100 mg/L as calcium carbonate for domestic waters, provides an acceptable balance between corrosion and incrustation. Water supplies with a hardness greater than 200 mg/L are considered poor and would possess a tendency to form scale deposits and result in excessive soap consumption. Hardness values for the St.Thomas (Elgin) water ranged from 120 - 139 mg/L.

The Langelier Index is used extensively in estimating the corrosion potential of water. An increasingly negative index indicates the increasing possibility of corrosion. It is considered sound engineering practice to maintain a slightly positive Langelier Index. The Langelier Index for the St.Thomas (Elgin) water was

almost always positive.

Metals

The results reported for the Metal scan were below any applicable ODWOs.

Iron and Manganese levels were lower in the treated water as compared to the raw water. This is a result of the treatment process. The addition of Alum as a coagulant to the raw water and the resulting coagulation/settling process has been shown to reduce the levels of most metals.

Elevated levels of Copper, Lead and Zinc were detected in most of the standing samples when compared to the free flow distribution samples, indicating that these metals were leached overnight from the household plumbing. Although the Langelier Index indicates minimal potential for corrosion some metals will be leached in standing samples in most supplies.

At present, there is no evidence that Aluminum is physiologically harmful and no health limit for drinking water has been specified. The measure of residual Aluminum in the treated water is important to indicate the efficiency of the treatment process. The ODWOs indicate that a useful guideline is to maintain a residual below 100 ug/L as Al in the water leaving the plant to avoid problems in the distribution system. Aluminum values exceeded the ODWO

operational guideline twice in the treated water.

Organic Parameters

Chloroaromatics

The results of the Chloroaromatics scan showed that no chloroaromatics were detected.

Chlorophenols

The results of the Chlorophenol scan showed that no Chlorophenols were detected.

Pesticides and PCB (Polychlorinated Biphenyls)

Results of the Pesticides and PCB scan showed that no PCBs were detected and that two pesticides were detected:

Alpha BHC

Lindane

There are several isomers of BHC (Benzene Hexachloride); gamma BHC is the active ingredient of the pesticide Lindane, while alpha BHC is the isomer predominantly found in surface waters of the Great Lakes basin as indicated in results from other DWSP locations.

Alpha BHC was detected at trace levels, five times in the raw water, seven times in the treated water and five times in both distribution system Sites.

Lindane was detected at trace levels, once in the raw water, twice in the treated water and twice in the Site 2 water.

Specific Pesticides

Results of the Specific Pesticides scan showed that no Specific Pesticides were detected.

Phenolics

The maximum desirable concentration of phenolic substances in drinking water is 2.0 ug/L. This limit has been set primarily to prevent the occurrence of undesirable tastes and odours, particularly in chlorinated water. Phenolics were detected in MAY at 3.2 ug/L in the raw and 2.8 ug/L in the treated. These values were considered unreliable by laboratory staff as per the remark 'UCR'. Phenolics were detected at trace levels, three times in the raw water and five times in the treated water. Phenolic compounds are present in the aquatic environment as a result of natural and/or industrial processes.

Polynuclear Aromatic Hydrocarbons (PAH)

The results of the PAH scan showed that no Polynuclear Aromatic Hydrocarbons were detected.

Volatiles

Results of the Volatile scan showed that eight parameters, other

Results of the Volatile scan showed that eight parameters, other than Trihalomethanes (THMs), were detected:

- Toluene
- Ethylbenzene
- Meta-Xylene
- Ortho-Xylene
- Styrene
- 1,1,1-Trichloroethane
- 1,2-Dichloroethane
- Tetrachloroethylene

Toluene was detected at trace levels, once in the raw and treated water, four times in the distribution system Site 1 water and three times in the Site 2 water. The detection of toluene at low, trace levels is a laboratory artifact derived from the analytical methodology. The purge-and-trap analytical technique depends on the purging of the volatile organics in the water sample with helium gas onto a Tenax trapping column. The volatile materials are subsequently thermally desorbed, separated and quantified. Tenax, a toluene-like polymeric material, tends to decompose sporadically upon heating into toluene and other aromatic components (ethylbenzene and xylene) giving instrument blanks in the order of 0.05 ug/L.

The detected trace levels of Styrene are also considered to be laboratory artifacts due to the outgassing of monomeric styrene

from the polystyrene shipping containers. The sporadic background levels from this source are in the order of 0.05 ug/L.

Ethylbenzene was detected at trace levels, twice in the treated water, four times in the distribution system Site 1 water and twice in the Site 2 water.

Meta-Xylene (M-Xylene) was detected at a trace level twice in the distribution system Site 2 water.

Ortho-Xylene (O-Xylene) was detected at a trace level twice in the distribution system Site 2 water.

The volatiles listed above are typically found on an occasional basis at other water supplies included on the DWSP usually at trace levels.

1,1,1-Trichloroethane was detected at trace levels, once in the raw water and once in the Site 2 water.

1,2-Dichloroethane was detected at trace levels, twice in the distribution system Site 1 water and once in the Site 2 water.

Tetrachloroethylene (T-Chloroethylene) was detected at a trace level, once in the Site 1 water.

THMs are known to be produced during the water treatment process and will always occur in chlorinated surface waters. THMs are comprised of Chloroform, Chlorodibromomethane and Dichlorobromomethane with Bromoform occurring occasionally. Results are reported for the individual compounds as well as for total THMs.

Chloroform, Chlorodibromomethane, Dichlorobromomethane and Total THMs were detected in all treated waters. Bromoform was detected at trace levels. Total THMs were detected three times in the raw water, possibly indicating the presence of chlorine in the sample. All Total THM occurrences, ranging from 30.75 - 50.6, were well below the ODWO of 350 ug/L.

CONCLUSIONS

The St.Thomas (Elgin) Water Supply System for the sample year of 1988 produced high quality water at the plant and this was maintained in the distribution system.

No health related guidelines for organic or inorganic parameters, were exceeded during 1987 or 1988.

RECOMMENDATIONS

One recommendation can be made:

1) The raw water sampling line should be reassessed to ensure that it still meets DWSP specifications.

TABLE 3

DRINKING WATER SURVEILLANCE PROGRAM ST THOMAS (ELGIN WSS) SAMPLE DAY CONDITIONS FOR 1988

SAMPLE DAY CONDITIONS			TREATMENT CHEMICAL DOSAGES (MG/L)				
DATE	RETENTION TIME(HRS)	FLOW (1000 M3)	COAGULATION	TASTE & ODOUR	PRE-CHLORINATION	POST-CHLORINATION	FLUORIDATION
			ALUM LIQUID	ACTIVATED CARBON POWDER	CHLORINE	CHLORINE	SODIUM SILICOFLUORIDE
JAN 05	10.1	23.1	22.50	1.00	1.05	.25	1.20
FEB 02	10.1	23.1	9.50	1.00	1.10	.20	1.20
MAR 08	14.8	17.7	12.50	1.30	1.22	.23	1.20
APR 06	10.1	23.1	30.00	2.80	1.18	.21	1.20
MAY 03	10.1	23.1	10.00	4.00	1.35	.25	1.20
JUN 07	6.4	31.8	10.30	5.20	1.40	.25	1.20
JUL 05	6.4	31.8	9.00	5.20	1.65	.30	1.20
AUG 03	6.4	31.8	9.50	4.90	2.10	.40	1.00
SEP 07	6.4	31.8	10.00	3.10	1.55	.45	1.00
OCT 04	6.4	31.8	12.50	4.00	1.35	.40	1.20
NOV 08	10.1	23.1	26.50	2.40	1.15	.38	1.20
DEC 06	6.4	31.8	15.90	2.40	1.05	.30	1.20

TABLE 4

DRINKING WATER SURVEILLANCE PROGRAM ELGIN

SUMMARY TABLE OF RESULTS (1988)

SCAN	PARAMETER	RAW		TREATED		SITE 1		SITE 2	
		TOTAL POSITIVE	TRACE	TOTAL POSITIVE	TRACE	TOTAL POSITIVE	TRACE	TOTAL POSITIVE	TRACE
BACTERIOLOGICAL	FECAL COLIFORM MF	12	7	0	•	•	•	•	•
	STANDARD PLATE CNT MF	7	7	0	12	7	0	11	6
	P/A BOTTLE	•	•	•	8	0	0	8	0
	TOTAL COLIFORM MF	12	11	0	12	0	0	12	0
	T COLIFORM BCKGRD MF	12	12	0	12	2	0	12	2

*TOTAL SCAN BACTERIOLOGICAL		43	37	0	44	9	0	43	8
*TOTAL GROUP BACTERIOLOGICAL		43	37	0	44	9	0	43	8

CHEMISTRY (FLD)	FLD CHLORINE (COMB)	•	•	•	12	12	0	23	0
	FLD CHLORINE FREE	•	•	•	12	12	0	24	0
	FLD CHLORINE (TOTAL)	•	•	•	12	12	0	24	0
	FLD PH	12	12	0	12	12	0	24	0
	FLD TEMPERATURE	12	12	0	12	12	0	24	0
	FLD TURBIDITY	12	12	0	12	12	0	24	0

*TOTAL SCAN CHEMISTRY (FLD)		36	36	0	72	72	0	143	0
*TOTAL SCAN CHEMISTRY (FLD)		36	36	0	72	72	0	144	0

CHEMISTRY (LAB)	ALKALINITY	12	12	0	11	11	0	23	0
	CALCIUM	12	12	0	11	11	0	24	0
	CYANIDE	12	0	0	12	0	0	12	0
	CHLORIDE	12	12	0	11	11	0	23	0
	COLOUR	12	3	7	10	0	10	23	1

TABLE 4

DRINKING WATER SURVEILLANCE PROGRAM ELGIN

SUMMARY TABLE OF RESULTS (1988)

SCAN	PARAMETER	SITE		RAW		TREATED		SITE 1		SITE 2	
		TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE	TOTAL
CHEMISTRY (LAB)	CONDUCTIVITY	12	12	0	11	11	0	23	23	0	24
	FLUORIDE	12	12	0	10	10	0	23	23	0	22
	HARDNESS	12	12	0	11	11	0	24	24	0	23
	IONCAL	12	5	0	12	4	0	24	10	0	24
	LANGELIERS INDEX	12	12	0	9	9	0	22	22	0	23
	MAGNESIUM	12	12	0	11	11	0	24	24	0	23
	SODIUM	12	12	0	11	11	0	24	24	0	23
	AMMONIUM TOTAL	12	6	5	10	3	7	23	14	9	22
	NITRITE	12	9	2	10	0	6	23	0	18	22
	TOTAL NITRATES	12	9	2	10	7	3	23	15	6	22
	NITROGEN TOT KJELD	12	11	1	10	9	1	23	20	3	23
	PH	12	12	0	10	10	0	23	23	0	24
	PHOSPHORUS FIL REACT	12	10	2	10	0	9	.	.	.	.
	PHOSPHORUS TOTAL	12	12	0	10	1	6	.	.	.	.
	TOTAL SOLIDS	1	1	0	1	1	0	2	0	2	2
	SULPHATE	5	5	0	4	4	0	10	10	0	10
	TURBIDITY	12	12	0	10	7	3	24	20	4	22
*TOTAL SCAN CHEMISTRY (LAB)		246	203	19	215	142	45	420	324	61	414
											324
											61
METALS	SILVER	12	0	1	11	0	3	23	2	12	24
	ALUMINUM	12	12	0	11	11	0	23	23	0	24
	ARSENIC	12	4	7	11	0	9	23	0	21	24
	BARIUM	12	12	0	11	11	0	23	23	0	24

TABLE 4

DRINKING WATER SURVEILLANCE PROGRAM ELGIN

SUMMARY TABLE OF RESULTS (1985)

SCAN	PARAMETER	SITE 1		TREATED		SITE 2							
		TOTAL POSITIVE TRACE	TOTAL POSITIVE TRACE	TOTAL POSITIVE TRACE	TOTAL POSITIVE TRACE								
METALS	BORON	11	7	4	10	7	3	23	16	7	24	19	5
	BERYLLIUM	12	0	7	11	0	6	23	0	11	24	0	9
	CADMIUM	12	0	4	11	0	2	23	0	7	24	0	4
	COBALT	12	3	8	11	0	10	23	0	23	24	0	23
	CHROMIUM	12	6	6	11	2	9	23	8	10	24	6	15
	COPPER	12	12	0	11	5	6	23	23	0	24	24	0
	IRON	12	11	0	11	0	10	23	0	16	24	4	19
	MERCURY	12	7	3	12	6	4	10	4	5	12	5	5
	MANGANESE	12	11	1	11	11	0	23	22	1	24	24	0
	MOLYBDENUM	12	10	2	11	11	0	23	23	0	24	23	1
	NICKEL	12	3	9	11	1	9	23	7	15	24	7	14
	LEAD	12	11	0	11	0	8	23	23	0	24	24	0
	ANTIMONY	12	9	3	11	7	4	23	21	2	24	20	4
	SELENIUM	12	0	11	11	0	10	23	0	23	24	0	24
	STRONTIUM	12	12	0	11	11	0	23	23	0	24	24	0
	TITANIUM	12	12	0	11	10	1	23	21	2	24	22	2
	THALLIUM	12	0	5	11	0	2	23	0	8	24	0	7
	URANIUM	12	12	0	11	9	2	23	20	3	24	20	4
	VANADIUM	12	7	5	11	6	5	23	8	15	24	9	15
	ZINC	12	11	1	11	8	3	23	23	0	24	22	2
*TOTAL SCAN METALS		287	172	77	264	116	106	539	290	181	564	301	108
*TOTAL GROUP INORGANIC & PHYSICAL		569	411	96	551	330	151	1102	757	242	1122	769	249
CHLOROPARATICS		12	0	0	12	0	0	11	0	0	11	0	0
HEXACHLOROBUTADIENE		12	0	0	12	0	0	11	0	0	11	0	0

TABLE 4

DRINKING WATER SURVEILLANCE PROGRAM ELGIN

SUMMARY TABLE OF RESULTS (1963)

SCAN	PARAMETER	SITE		TREATED		SITE 1		SITE 2	
		RAW	TOTAL POSITIVE TRACE	RAW	TOTAL POSITIVE TRACE	TOTAL POSITIVE TRACE	TOTAL POSITIVE TRACE	TOTAL POSITIVE TRACE	TOTAL POSITIVE TRACE
CHLORODROMATICS	123 TRICHLOROBENZENE	12	0	0	12	0	0	11	0
	1234 T-CHLOROBENZENE	12	0	0	12	0	0	11	0
	1235 T-CHLOROBENZENE	12	0	0	12	0	0	11	0
	124 TRICHLOROBENZENE	12	0	0	12	0	0	11	0
	1245 T-CHLOROBENZENE	12	0	0	12	0	0	11	0
	135 TRICHLOROBENZENE	12	0	0	12	0	0	11	0
	135 TRICHLOROBENZENE	12	0	0	12	0	0	11	0
	135 TRICHLOROBENZENE	12	0	0	12	0	0	11	0
	135 TRICHLOROBENZENE	12	0	0	12	0	0	11	0
	135 TRICHLOROBENZENE	12	0	0	12	0	0	11	0
CHLOROPHENOLS	234 TRICHLOROPHENOL	2	0	0	2	0	0	2	0
	2345 T-CHLOROPHENOL	2	0	0	2	0	0	2	0
	2356 T-CHLOROPHENOL	2	0	0	2	0	0	2	0
	245-TRICHLOROPHENOL	2	0	0	2	0	0	2	0
	246-TRICHLOROPHENOL	2	0	0	2	0	0	2	0
	PENTACHLOROPHENOL	2	0	0	2	0	0	2	0
	PENTACHLOROPHENOL	2	0	0	2	0	0	2	0
	PENTACHLOROPHENOL	2	0	0	2	0	0	2	0
	PENTACHLOROPHENOL	2	0	0	2	0	0	2	0
	PENTACHLOROPHENOL	2	0	0	2	0	0	2	0
*TOTAL SCAN CHLORODROMATICS		168	0	0	168	0	0	154	0
CHLOROPHENOLS		2	0	0	2	0	0	2	0
234 TRICHLOROPHENOL		2	0	0	2	0	0	2	0
2345 T-CHLOROPHENOL		2	0	0	2	0	0	2	0
2356 T-CHLOROPHENOL		2	0	0	2	0	0	2	0
245-TRICHLOROPHENOL		2	0	0	2	0	0	2	0
246-TRICHLOROPHENOL		2	0	0	2	0	0	2	0
PENTACHLOROPHENOL		2	0	0	2	0	0	2	0
*TOTAL SCAN CHLOROPHENOLS		12	0	0	12	0	0	0	0

DRINKING WATER SURVEILLANCE PROGRAM ELGIN

SUMMARY TABLE OF RESULTS (1968)

SCAN	PARAMETER	SITE		RAW		TREATED		SITE 1		SITE 2	
		TOTAL	POSITIVE TRACE	TOTAL	POSITIVE TRACE	TOTAL	POSITIVE TRACE	TOTAL	POSITIVE TRACE	TOTAL	POSITIVE TRACE
PAH	PHENANTHRENE	12	0	0	12	0	0	0	0	0	0
	ANTHRACENE	12	0	0	12	0	0	0	0	0	0
	FLUORANTHENE	12	0	0	12	0	0	0	0	0	0
	PYRENE	12	0	0	12	0	0	0	0	0	0
	BENZO(A)ANTHRACENE	12	0	0	12	0	0	0	0	0	0
	CHRYSENE	12	0	0	12	0	0	0	0	0	0
	DIMETH. BENZ(A)ANTHR	12	0	0	12	0	0	0	0	0	0
	BENZO(E) PYRENE	12	0	0	12	0	0	0	0	0	0
	BENZO(J) FLUORANTHENE	0	0	0	0	0	0	0	0	0	0
	BENZO(B) FLUORANTHENE	12	0	0	12	0	0	0	0	0	0
	PERYLENE	12	0	0	12	0	0	0	0	0	0
	BENZO(K) FLUORANTHENE	12	0	0	12	0	0	0	0	0	0
	BENZO(A) PYRENE	12	0	0	12	0	0	0	0	0	0
	BENZO(G,H,I) PERYLENE	12	0	0	12	0	0	0	0	0	0
	DIBENZO(A,H) ANTHRAC	12	0	0	12	0	0	0	0	0	0
	INDENO(1,2,3-C,D) PY	12	0	0	12	0	0	0	0	0	0
	BENZO(B) CHRYSENE	12	0	0	12	0	0	0	0	0	0
	ANTHANTHRENE	0	0	0	0	0	0	0	0	0	0
	CORONE	12	0	0	12	0	0	0	0	0	0
*TOTAL SCAN PAH		204	0	0	204	0	0	0	0	0	0
PESTICIDES & PCB	ALDRIN	12	0	0	12	0	0	11	0	0	0
	ALPHA BHC	12	0	5	12	0	7	11	0	5	11

TABLE 4

DRINKING WATER SURVEILLANCE PROGRAM ELGIN

SUMMARY TABLE OF RESULTS (1965)

SCAM	PARAMETER	SITE		TREATED		SITE 1		SITE 2	
		TOTAL	RAW	TOTAL	POSITIVE TRACE	TOTAL	POSITIVE TRACE	TOTAL	POSITIVE TRACE
PESTICIDES & PCB	BETA BHC	12	0	12	0	11	0	11	0
	LINDANE	12	0	12	0	11	0	11	0
	ALPHA CHLORDANE	12	0	12	0	11	0	11	0
	GAMMA CHLORDANE	12	0	12	0	11	0	11	0
	DIELDRIN	12	0	12	0	11	0	11	0
	METHOXYCHLOR	12	0	12	0	11	0	11	0
	ENDOSULFAM I	12	0	12	0	11	0	11	0
	ENDOSULFAM II	12	0	12	0	11	0	11	0
	ENDRIN	12	0	12	0	11	0	11	0
	ENDOSULFAM SULPHATE	12	0	12	0	11	0	11	0
	HEPTACHLOR EPOXIDE	12	0	12	0	11	0	11	0
	HEPTACHLOR	12	0	12	0	11	0	11	0
	MIREX	12	0	12	0	11	0	11	0
	OXYCHLORDANE	12	0	12	0	11	0	11	0
	OPDOT	12	0	12	0	11	0	11	0
	PCB	12	0	12	0	11	0	11	0
	DDD	12	0	12	0	11	0	11	0
	PPDDE	12	0	12	0	11	0	11	0
	PPDOT	12	0	12	0	11	0	11	0
	ANETRINE	12	0	12	0	12	0	11	0
	ATRAZINE	12	0	12	0	12	0	11	0
	ATRATONE	12	0	12	0	12	0	11	0
	CYANAZINE	12	0	12	0	12	0	11	0
	DES ETHYL ATRAZINE	6	0	6	0	6	0	5	0
	DES ETHYL SIMAZINE	6	0	6	0	6	0	5	0

TABLE 4

DRINKING WATER SURVEILLANCE PROGRAM ELGIN

SUMMARY TABLE OF RESULTS (1988)

SCAN	PARAMETER	SITE		RAW		TREATED		SITE 1		SITE 2	
		TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE	TOTAL
PESTICIDES & PCB	PROMETONE	12	0	0	12	0	0	12	0	0	11
	PROPACINE	12	0	0	12	0	0	12	0	0	11
	PROMETRYNE	12	0	0	12	0	0	12	0	0	11
	METRIBUZIN	12	0	0	12	0	0	12	0	0	11
	SIMAZINE	12	0	0	12	0	0	12	0	0	11
	ALACHLOR	12	0	0	12	0	0	12	0	0	11
	METOLACHLOR	12	0	0	12	0	0	12	0	0	11
*TOTAL SCAN PESTICIDES & PCB		396	0	6	396	0	9	375	0	5	362
PHENOLICS	PHENOLICS	12	3	3	12	2	5	.	.	.	.
		12	3	3	12	2	5	0	0	0	0
SPECIFIC PESTICIDES	TOXAPHENE	0	0	0	0	0	0	0	0	0	0
	2,4,5-T	2	0	0	2	0	0	.	.	.	.
2,4-D	2,4-D	2	0	0	2	0	0	.	.	.	.
	2,4-D	2	0	0	2	0	0	.	.	.	.
2,4-D	2,4-D	2	0	0	2	0	0	.	.	.	.
	2,4-D	2	0	0	2	0	0	.	.	.	.
DICAMBA	DICAMBA	2	0	0	2	0	0	.	.	.	.
	DICAMBA	2	0	0	2	0	0	.	.	.	.
PITCHLOFAM	PITCHLOFAM	1	0	0	0	0	0	.	.	.	.
	PITCHLOFAM	2	0	0	2	0	0	.	.	.	.
SILVEX	SILVEX	2	0	0	2	0	0	.	.	.	.
	SILVEX	2	0	0	2	0	0	.	.	.	.
DIAZINON	DIAZINON	2	0	0	2	0	0	.	.	.	.
	DIAZINON	2	0	0	2	0	0	.	.	.	.

TABLE 4

DRINKING WATER SURVEILLANCE PROGRAM ELGIN

SUMMARY TABLE OF RESULTS (1988)

SCAN	PARAMETER	SITE		RAW		TREATED		SITE 1		SITE 2	
		TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE	TOTAL
SPECIFIC PESTICIDES	DICHLOROVOS	2	0	0	2	0	0	.	.	.	.
	CHLORPYRIFOS	2	0	0	2	0	0	.	.	.	.
	ETHION	2	0	0	2	0	0	.	.	.	.
	AZINPHOS-METHYL	0	0	0	0	0	0	.	.	.	.
	MALATHION	2	0	0	2	0	0	.	.	.	.
	MEVINPHOS	2	0	0	2	0	0	.	.	.	.
	METHYL PARATHION	2	0	0	2	0	0	.	.	.	.
	METHYLTRITHION	2	0	0	2	0	0	.	.	.	.
	PARATHION	2	0	0	2	0	0	.	.	.	.
	PHORATE	2	0	0	2	0	0	.	.	.	.
	RELDAN	2	0	0	2	0	0	.	.	.	.
	RONNEL	2	0	0	2	0	0	.	.	.	.
	AMINOCARB	0	0	0	0	0	0	.	.	.	.
	BENONYL	2	0	0	2	0	0	.	.	.	.
	BUX	2	0	0	2	0	0	.	.	.	.
	CARBOFURAN	2	0	0	2	0	0	.	.	.	.
	CICP	2	0	0	2	0	0	.	.	.	.
	DIALLATE	2	0	0	2	0	0	.	.	.	.
	EPTAM	2	0	0	2	0	0	.	.	.	.
	IPC	2	0	0	2	0	0	.	.	.	.
	PROPOUR	2	0	0	2	0	0	.	.	.	.
	CARBARYL	2	0	0	2	0	0	.	.	.	.
	BUTYLATE	2	0	0	2	0	0	.	.	.	.
*TOTAL SCAN SPECIFIC PESTICIDES		57	0	0	56	0	0	0	0	0	0

TABLE 4
DRINKING WATER SURVEILLANCE PROGRAM ELGIN

SUMMARY TABLE OF RESULTS (1968)

SCAN	PARAMETER	SITE		RAW		TREATED		SITE 1		SITE 2	
		TOTAL	POSITIVE TRACE	TOTAL	POSITIVE TRACE	TOTAL	POSITIVE TRACE	TOTAL	POSITIVE TRACE	TOTAL	POSITIVE TRACE
	VOLATILES										
	BENZENE	9	0	0	0	9	0	9	0	9	0
	TOLUENE	9	0	1	9	0	1	9	0	4	9
	ETHYLBENZENE	9	0	0	9	0	2	9	0	4	9
	P-XYLENE	9	0	0	9	0	0	9	0	0	9
	M-XYLENE	9	0	0	9	0	0	9	0	0	9
	O-XYLENE	9	0	0	9	0	0	9	0	0	9
	STYRENE	3	0	3	3	0	0	3	0	0	3
	1,1 DICHLOROETHYLENE	9	0	0	9	0	0	9	0	0	9
	METHYLENE CHLORIDE	9	0	0	9	0	0	9	0	0	9
	1,1,2 DICHLOROETHYLENE	9	0	0	9	0	0	9	0	0	9
	1,1 DICHLOROETHANE	9	0	0	9	0	0	9	0	0	9
	CHLOROFORM	9	1	2	9	9	0	9	9	0	9
	111, TRICHLOROETHANE	9	0	1	9	0	0	9	0	0	9
	1,2 DICHLOROETHANE	9	0	0	9	0	0	9	0	2	9
	CARBON TETRACHLORIDE	9	0	0	9	0	0	9	0	0	9
	1,2 DICHLOROPROPANE	9	0	0	9	0	0	9	0	0	9
	TRICHLOROETHYLENE	9	0	0	9	0	0	9	0	0	9
	DICHLOROBROMOETHANE	9	0	3	9	9	0	9	9	0	9
	112 TRICHLOROETHANE	9	0	0	9	0	0	9	0	0	9
	CHLORODIBROMOETHANE	9	0	3	9	9	0	9	9	0	9
	T-CHLOROETHYLENE	9	0	0	9	0	0	9	0	1	9
	BROMOFORM	9	0	0	9	0	0	9	0	8	9
	1122 T-CHLOROETHANE	9	0	0	9	0	0	9	0	0	9
	CHLOROBENZENE	9	0	0	9	0	0	9	0	0	9
	1,4 DICHLOROBENZENE	9	0	0	9	0	0	9	0	0	9

TABLE 4
DRINKING WATER SURVEILLANCE PROGRAM ELGIN

SUMMARY TABLE OF RESULTS (1988)

SCAN	PARAMETER	SITE 1			SITE 2					
		RAW	TREATED	TOTAL POSITIVE TRACE	TOTAL POSITIVE TRACE	TOTAL POSITIVE TRACE	TOTAL POSITIVE TRACE			
VOLATILES	1,3 DICHLOROBENZENE	9	0	0	9	0	0	9	0	0
	1,2 DICHLOROBENZENE	9	0	0	9	0	0	9	0	0
	TRIFLUOROCOLOROTUOE	3	0	0	3	0	0	3	0	0
	ETHYLENE DIBROMIDE	9	0	0	9	0	0	9	0	0
	TOTL TRINALOMETHANES	9	0	3	9	9	0	9	9	0
*TOTAL SCAN VOLATILES		258	1	16	258	36	12	258	36	21
*TOTAL GROUP ORGANIC		1107	4	25	1106	38	26	787	36	24
TOTAL		1719	452	121	1701	377	177	1932	798	266

KEY TO TABLE 5 and 6

- A** **ONTARIO DRINKING WATER OBJECTIVES (ODWO)**
1. Maximum Acceptable Concentration (MAC)
1+. MAC for Total Trihalomethanes
1*. MAC for Bacteriological Analyses
 Poor water quality is indicated when :
 - total coliform counts > 0 < 5
 - P/A Bottle Test is present after 48 hours
 - Aeromonas organisms are detected in more than 25% of samples in a single submission or in successive submissions from the same sampling site
 - Pseudomonas Aeruginosa, Staphylococcus Aureus and members of the Fecal Streptococcus group should not be detected in any sample
 - Standard Plate Count should not exceed 500 organisms per ml at 35 °C within 48 hours
2. Interim Maximum Acceptable Concentration (IMAC)
3. Maximum Desirable Concentration (MDC)
4. Aesthetic or Recommended Operational Guideline
 - hardness levels between 80 and 100 mg/L as calcium carbonate are considered to provide an acceptable balance between corrosion and incrustation, water supplies with a hardness >200 mg/L are considered poor and those in excess of 500 mg/L are unacceptable.
- B** **HEALTH & WELFARE CANADA (H&W)**
1. Maximum Acceptable Concentration (MAC)
2. Proposed MAC
3. Interim MAC
4. Aesthetic Objective (AO) (for xylenes, the AO is a total)
- C** **WORLD HEALTH ORGANIZATION (WHO)**
1. Guideline Value (GV)
2. Tentative GV
3. Aesthetic GV
- D** **US ENVIRONMENTAL PROTECTION AGENCY (EPA)**
1. Maximum Contaminant Level (MCL)
2. Suggested No-Adverse Effect Level (SNAEL)
3. Lifetime Health Advisory
4. EPA Ambient Water Quality Criteria
- F** **EUROPEAN ECONOMIC COMMUNITY (EEC)**
1. Health Related Guideline Level
2. Aesthetic Guideline Level
3. Maximum Admissible Concentration (MADC)
- G** **CALIFORNIA STATE DEPARTMENT OF HEALTH-GUIDELINE VALUE**
- H** **USSR MAXIMUM PERMISSIBLE CONCENTRATION**
- I** **NEW YORK STATE AMBIENT WATER GUIDELINE**
- N/A** **NONE AVAILABLE**

INTERPRETATION OF DATA

The interpretation of analytical results that are obtained from measurements near the limit of detection of the measurement process is subject to greater uncertainty than those at higher concentrations. The principle areas of concern relate to whether the substance has actually been detected, whether it has been properly identified, and whether it is an artifact of the measurement process. In other words, false positives can be caused by the instrumentation or the test procedures used, when in fact these compounds are not present in the sample.

There are several methods to treat data from such measurements:

1. Exclude the low-level data because of this uncertainty factor. However, studies of long-term environmental trends and modelling may be adversely affected by exclusion of such data.
2. Qualify these data so the user is aware of the greater uncertainty associated with their use.

For the Drinking Water Surveillance Program, measurements near the limit of detection of the measurement process are reported qualified by the code "<T". Results quantified by "W" indicate a zero measurement. These results are reported for purposes of modelling and long-term trend analysis and no significance should be attributed to a single determination of a substance below "T" (a single determination may well be a false positive). Repeat analysis or additional data are needed before it can be stated with certainty that the substance in question was truly present. On the other hand, it is less likely that repeated detection of a substance at or near the limit of detection at a specific location is solely due to an artifact in the measurement system, and more likely represents a true positive. However the average of such data is still only an estimate of the amount of substance present subject to the possible biases of the method used.

LABORATORY RESULTS, REMARK DESCRIPTIONS

.	No Sample Taken
BDL	Below Minimum Measurable Amount
<T	Greater Than Detection Limit But Not Confident (SEE INTERPRETATION OF RESULTS ABOVE)
>	Results Are Greater Than The Upper Limit
<=>	Approximate Result
!AW	No Data: Analysis Withdrawn
!CR	No Data: Could Not Confirm By Reanalysis
!CS	No Data: Contamination Suspected
!IL	No Data: Sample Incorrectly Labelled
!IS	No Data: Insufficient Sample
!LA	No Data: Laboratory Accident

!LD	No Data: Test Queued After Sample Discarded
!NA	No Data: No Authorization To Perform Reanalysis
!NP	No Data: No Procedure
!NR	No Data: Sample Not Received
!OP	No Data: Obscured Plate
!QU	No Data: Quality Control Unacceptable
!PE	No Data: Procedural Error - Sample Discarded
!PH	No Data: Sample pH Outside Valid Range
!RE	No Data: Received Empty
!RO	No Data: See Attached Report (no numeric results)
!SM	No Data: Sample Missing
!SS	No Data: Send Separate Sample Properly Preserved
!UI	No Data: Indeterminant Interference
!TX	No Data: Time Expired
A3C	Approximate, Total Count Exceeded 300 Colonies
APL	Additional Peak, Large, Not Priority Pollutant
APS	Additional Peak, Less Than, Not Priority Pollutant
CIC	Possible Contamination, Improper Cap
CRO	Calculated Result Only
PPS	Test Performed On Preserved Sample
RMP	P and M-Xylene Not Separated
RRV	Rerun Verification
RVU	Reported Value Unusual
SPS	Several Peaks, Small, Not Priority Pollutant
UAL	Unreliable: Sample Age Exceeds Normal Limit
UCR	Unreliable: Could Not Confirm By Reanalysis
UCS	Unreliable: Contamination Suspected
UIN	Unreliable: Indeterminant Interference
XP	Positive After X Number of Hours
T# (T06)	Result Taken After # Hours

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM ST THOMAS (ELGIN VSS) 1988

WATER TREATMENT PLANT

DISTRIBUTION SYSTEM

RAW		TREATED		SITE 1		SITE 2	
				STANDING	FREE FLOW	STANDING	FREE FLOW

BACTERIOLOGICAL							
FECAL COLIFORM MF (CT/100ML)		DET'N LIMIT = 0		GUIDELINE = 0 (A1)			
JAN	5	.	.	.	.	.	.
FEB	0	.	.	.	.	.	.
MAR	0	.	.	.	.	.	.
APR	4	.	.	.	.	.	.
MAY	0	.	.	.	.	.	.
JUN	0	.	.	.	.	.	.
JUL	BDL	.	.	.	.	.	.
AUG	23	.	.	.	.	.	.
SEP	18	.	.	.	.	.	.
OCT	46 T24	.	.	.	.	.	.
NOV	4 T24	.	.	.	.	.	.
DEC	4 T24	.	.	.	.	.	.

STANDRD PLATE CNT MF (CT/ML)		DET'N LIMIT = 0		GUIDELINE = 500/ML (A1)			
JAN	250	1	.	1	.	2	
FEB	10P	0	.	0	.	0	
MAR	560	1	.	112	.	58	
APR	800	2	.	6	.	11	
MAY	130	1	.	1	.	0	
JUN	56	4	.	0	.	10	
JUL	2400 >	9	.	0	.	29	
AUG	1200	114	.	1AW	.	1AW	
SEP	.	0	.	4	.	2	
OCT	.	1 <=	.	0 <=	.	3 <=	
NOV	.	0 <=	.	4 <=	.	1 <=	
DEC	.	1 <=	.	1 <=	.	1 <=	

P/A BOTTLE ()		DET'N LIMIT = 0		GUIDELINE = 0 (A1*)			
JAN	.	0	.	0	.	0	
FEB	.	0	.	0	.	0	
MAR	.	0	.	0	.	0	
APR	.	0	.	0	.	0	
MAY	.	0	.	0	.	0	
JUN	.	0	.	0	.	0	
JUL	.	0	.	0	.	0	
AUG	.	0	.	0	.	0	

TOTAL COLIFORM MF (CT/100ML)		DET'N LIMIT = 0		GUIDELINE = 5/100ML(A1)			
JAN	900	0	.	0	.	0	
FEB	166 A3C	0	.	0	.	0	

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM ST THOMAS (ELGIN WSS) 1988

SITE TYPE	WATER TREATMENT PLANT				DISTRIBUTION SYSTEM	
	RAW	TREATED	SITE 1		SITE 2	
			STANDING	FREE FLOW	STANDING	FREE FLOW
MAR	82 A3C	0	.	0	.	0
APR	590 A3C	0	.	0	.	0
MAY	2	0	.	0	.	0
JUN	12	0	.	0	.	0
JUL	3100 A3C	0	.	0	.	0
AUG	700 A3C	0	.	0	.	0
SEP	28	0	.	0	.	0
OCT	130 A3C	0 T24	.	0 T24	.	0 T24
NOV	50 <=>	0 T24	.	0 T24	.	0 T24
DEC	100 A3C	0 T24	.	0 T48	.	0 T24
T COLIFORM BCKGRD MF (CT/100ML)						
			DET'M LIMIT = 0		GUIDELINE = N/A	
JAN	3400	2	.	0	.	0
FEB	1320	0	.	0	.	0
MAR	3000	0	.	0	.	0
APR	18000	0	.	0	.	0
MAY	66	0	.	0	.	0
JUN	560	4	.	0	.	0
JUL	74000	0	.	0	.	0
AUG	32000	0	.	0	.	2400 >
SEP	5100	0	.	0	.	30
OCT	6000 A3C	0 T24	.	0 T24	.	0 T24
NOV	24000 >	0 T24	.	0 T24	.	0 T24
DEC	9600 >	0 T24	.	0 T48	.	0 T24

DRINKING WATER SURVEILLANCE PROGRAM ST THOMAS (ELGIN WSS) 1988

DISTRIBUTION SYSTEM

SITE		SITE 1		SITE 2	
RAW	TREATED				
TYPE		STANDING	FREE FLOW	STANDING	FREE FLOW
CHEMISTRY (FLD)					
FLD CHLORINE (COMB) ()		DET'M LIMIT = N/A		GUIDELINE = N/A	
JAN	.	.050	.300	.100	.150
FEB	.	.050	.150	.050	.050
MAR	.	.100	.100	.100	.050
APR	.	.050	.200	.100	.100
MAY	.	.050	.300	.100	.050
JUN	.	.150	.450	.050	.050
JUL	.	.200	.050	.100	.050
AUG	.	.100	.300	.100	.050
SEP	.	.100	.200	.100	.100
OCT	.	.100	.300	.100	.100
NOV	.	.100	.400	.100	.100
DEC	.	.100	.300	.050	.150
FLD CHLORINE FREE ()					
		DET'M LIMIT = N/A		GUIDELINE = N/A	
JAN	.	.750	.300	.850	.250
FEB	.	.700	.400	.550	.350
MAR	.	.700	.400	.800	.100
APR	.	.800	.700	.900	.250
MAY	.	.750	.500	.850	.250
JUN	.	.800	.350	.800	.100
JUL	.	.550	.150	.950	.100
AUG	.	.900	.300	.800	.150
SEP	.	.900	.700	.800	.050
OCT	.	.900	.500	.850	.100
NOV	.	.900	.400	.850	.150
DEC	.	.750	.400	.800	.200
FLD CHLORINE (TOTAL) ()					
		DET'M LIMIT = N/A		GUIDELINE = N/A	
JAN	.	.800	.600	.950	.400
FEB	.	.750	.550	.550	.350
MAR	.	.800	.500	.850	.200
APR	.	.850	.900	1.000	.350
MAY	.	.800	.800	.950	.350
JUN	.	.950	.800	.850	.150
JUL	.	.750	.200	1.050	.150
AUG	.	1.000	.600	.900	.200
SEP	.	1.000	.900	.900	.150
OCT	.	1.000	.800	.950	.200
NOV	.	1.000	.800	.950	.250
DEC	.	.850	.700	.850	.350

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM ST THOMAS (ELGIN WSS) 1988

			WATER TREATMENT PLANT		DISTRIBUTION SYSTEM	
SITE						
TYPE	RAW	TREATED	SITE 1		SITE 2	
			STANDING	FREE FLOW	STANDING	FREE FLOW
FLD PH (OHNSLESS)	DET'N LIMIT = N/A			GUIDELINE = 6.5-8.5(A4)		
JAN	7.800	7.150	7.300	7.250	7.450	7.400
FEB	7.600	7.300	7.500	7.300	7.400	7.450
MAR	8.000	7.900	7.500	7.250	7.450	7.300
APR	8.000	7.300	7.400	7.300	7.500	7.450
MAY	8.200	7.500	7.500	7.450	7.500	7.450
JUN	7.900	7.300	7.500	7.300	7.350	7.500
JUL	7.700	7.300	7.500	7.250	7.500	7.350
AUG	7.800	7.200	7.300	7.150	7.300	7.300
SEP	8.100	7.500	7.500	7.450	7.500	7.600
OCT	8.200	7.500	7.500	7.350	7.500	7.500
NOV	7.800	7.300	7.500	7.400	7.500	7.500
DEC	8.000	7.350	7.500	7.350	7.500	7.500
FLD TEMPERATURE (DEG.C)	DET'N LIMIT = N/A			GUIDELINE = 15 (A1)		
JAN	1.000	1.500	15.000	5.000	16.000	9.000
FEB	1.000	1.000	10.500	3.500	17.000	5.500
MAR	2.000	1.000	10.000	3.500	20.000	5.000
APR	4.000	4.500	12.000	5.000	20.000	7.000
MAY	8.000	7.500	13.500	8.000	21.500	8.500
JUN	11.000	11.500	15.500	13.000	22.000	13.000
JUL	15.000	14.000	18.000	15.500	22.000	15.000
AUG	16.000	16.000	18.000	17.500	23.500	19.500
SEP	20.000	21.000	18.500	19.500	20.000	20.000
OCT	19.000	18.000	18.000	17.000	21.000	18.500
NOV	9.000	9.500	15.000	10.500	20.500	18.500
DEC	8.000	5.500	12.500	8.000	19.500	11.000
FLD TURBIDITY (FTU)	DET'N LIMIT = N/A			GUIDELINE = 1.0 (A1)		
JAN	68.000	.070	.110	.110	.110	.100
FEB	6.500	.090	.080	.130	.080	.100
MAR	5.900	.120	.120	.100	.130	.140
APR	45.000	.070	.100	.080	.090	.070
MAY	6.800	.080	.130	.120	.090	.080
JUN	15.000	.110	.110	.100	.260	.200
JUL	6.200	.190	.250	.170	.320	.330
AUG	12.000	.140	.180	.150	.170	.140
SEP	19.000	.080	.070	.090	.140	.170
OCT	26.000	.090	.120	.090	.130	.120
NOV	175.000	.070	.100	.090	.100	.100
DEC	50.000	.090	.080	.120	.070	.130

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM ST THOMAS (ELGIN WSS) 1988

WATER TREATMENT PLANT					DISTRIBUTION SYSTEM	
SITE	RAW	TREATED	SITE 1		SITE 2	
TYPE			STANDING	FREE FLOW	STANDING	FREE FLOW

CHEMISTRY (LAB)						
ALKALINITY (MG/L)			DET'M LIMIT = .200		GUIDELINE = 30-500 (A4)	
JAN	98.900	86.100	87.700	88.700	89.100	87.800
FEB	96.000	89.400	90.700	90.700	91.300	90.900
MAR	103.900	94.300	94.800	95.300	96.700	96.500
APR	107.200	94.700	95.800	96.200	98.600	100.100
MAY	105.600	98.200	118	97.900	98.700	99.400
JUN	103.200	94.700	98.000	96.000	95.900	96.100
JUL	110.300	97.100	96.000	95.500	102.600	100.300
AUG	110.200	101.500	102.600	102.900	101.500	101.500
SEP	99.700	91.800	91.000	91.000	92.000	91.700
OCT	103.800	94.600	95.500	95.500	97.200	96.500
NOV	102.200	92.200	87.900	90.300	92.400	93.500
DEC	106.400	118	95.600	97.200	93.700	98.400

CALCIUM (MG/L)			DET'M LIMIT = .100		GUIDELINE = 100 (F2)	
JAN	35.600	36.600	36.800	35.800	38.400	118
FEB	35.000	34.400	35.800	36.200	36.400	36.800
MAR	37.600	37.600	37.400	37.400	38.000	38.400
APR	40.600	39.400	39.000	39.200	41.000	39.400
MAY	36.800	37.000	36.800	38.000	37.600	37.600
JUN	35.800	36.900	36.100	35.700	36.500	37.000
JUL	38.400	36.800	37.200	37.400	36.400	36.400
AUG	39.900	39.500	41.100	40.000	40.400	40.700
SEP	37.400	37.200	36.200	36.800	37.200	37.800
OCT	38.400	38.400	39.400	38.600	39.600	40.000
NOV	36.800	39.400	38.600	36.800	36.200	35.600
DEC	34.600	118	34.400	34.600	36.400	37.200

CHLORIDE (MG/L)			DET'M LIMIT = .200		GUIDELINE = 250 (A3)	
JAN	13.900	14.800	14.800	14.600	15.000	118
FEB	13.400	14.300	14.500	14.400	14.800	14.500
MAR	15.100	16.300	16.400	16.300	16.400	16.300
APR	14.800	15.700	15.500	15.600	15.900	15.900
MAY	13.600	15.200	118	15.200	15.100	15.000
JUN	14.100	15.700	15.600	15.600	15.900	15.600
JUL	14.000	15.900	16.100	16.100	20.800	18.700
AUG	14.800	17.200	17.100	17.200	17.400	17.300
SEP	13.300	14.800	14.800	14.800	14.900	15.000
OCT	13.400	14.900	15.000	14.900	15.100	15.000
NOV	13.300	14.300	14.500	14.700	14.400	14.200
DEC	13.800	118	14.400	14.400	14.700	14.600

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM ST THOMAS (ELGIN WSS) 1988

WATER TREATMENT PLANT

DISTRIBUTION SYSTEM

SITE		RAW	TREATED	SITE 1		SITE 2	
TYPE				STANDING	FREE FLOW	STANDING	FREE FLOW
COLOUR (NZU)		DET'N LIMIT = .5			GUIDELINE = 5.0 (A3)		
JAN		NOL	.500 <T	.500 <T	.500 <T	.500 <T	118
FEB		2.000 <T	.500 <T	.050 <T	NOL	.500 <T	.500 <T
MAR		2.500	1.000 <T	1.000 <T	1.000 <T	1.000 <T	1.000 <T
APR		1.000 <T	118	.500 <T	.500 <T	1.000 <T	1.000 <T
MAY		1.500 <T	1.000 <T	118	1.000 <T	1.000 <T	1.000 <T
JUN		2.500	1.500 <T	1.000 <T	1.000 <T	2.500	2.000 <T
JUL		2.000 <T	.500 <T	.500 <T	.500 <T	2.000 <T	1.000 <T
AUG		2.500	1.000 <T	.500 <T	.500 <T	1.000 <T	1.000 <T
SEP		2.000 <T	.500 <T	.500 <T	.500 <T	1.000 <T	1.000 <T
OCT		1.500 <T	.500 <T	.500 <T	NOL	.500 <T	.500 <T
NOV		1.000 <T	.500 <T	.500 <T	.500 <T	1.000 <T	1.000 <T
DEC		NOL	118	.500 <T	.500 <T	1.000 <T	.500 <T
CONDUCTIVITY (UMHO/CM)		DET'N LIMIT = 1			GUIDELINE = 400 (F2)		
JAN		271	289	297	300	305	301
FEB		272	277	282	280	283	282
MAR		291	294	295	297	296	295
APR		288	303	299	298	307	312
MAY		292	301	118	302	303	305
JUN		289	296	299	298	299	300
JUL		286	287	286	287	298	301
AUG		303	311	314	314	312	312
SEP		283	287	289	286	291	290
OCT		286	294	295	296	298	296
NOV		276	299	299	298	290	291
DEC		290	118	297	302	302	306
FLUORIDE (MG/L)		DET'N LIMIT = .01			GUIDELINE = 2.400 (A1)		
JAN		.140	1.140	1.080	1.080	1.080	118
FEB		.100	1.060	1.200	.920	118	1.100
MAR		.100	1.140	1.100	1.100	1.110	1.080
APR		.120	118	1.340	1.310	.950	.890
MAY		.110	1.190	118	1.240	1.060	1.030
JUN		.120	1.230	1.120	1.130	1.150	1.150
JUL		.120	1.100	1.300	1.670	1.220	1.210
AUG		.120	1.200	1.260	1.190	1.160	1.160
SEP		.140	.780	1.200	1.080	1.140	1.160
OCT		.120	1.140	1.100	1.200	1.100	1.080
NOV		.100	1.300	1.240	1.260	1.180	1.200
DEC		.120	118	1.520	1.420	1.220	1.180
HARDNESS (MG/L)		DET'N LIMIT = .500			GUIDELINE = 80-100 (A4)		

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM ST THOMAS (ELGIN WSS) 1988

SITE TYPE	WATER TREATMENT PLANT				DISTRIBUTION SYSTEM	
	RAW	TREATED	SITE 1		SITE 2	
			STANDING	FREE FLOW	STANDING	FREE FLOW
JAN	123.000	126.000	126.000	123.000	130.000	115
FEB	122.000	120.000	123.000	125.000	125.000	127.000
MAR	128.000	130.000	127.000	129.000	130.000	132.000
APR	138.000	134.000	132.000	133.000	139.000	134.000
MAY	126.000	126.000	126.000	129.000	128.000	127.000
JUN	123.000	126.000	124.000	121.000	123.000	126.000
JUL	131.000	125.000	127.000	128.000	125.000	125.000
AUG	133.300	132.300	137.100	134.000	135.400	135.700
SEP	130.000	129.000	126.000	128.000	129.000	131.000
OCT	132.000	132.000	135.000	133.000	135.000	136.000
NOV	128.000	134.000	132.000	126.000	125.000	123.000
DEC	126.000	115	122.000	123.000	128.000	129.000
IONICAL (DIMENSIONLESS)						
	DET'N LIMIT = N/A			GUIDELINE = N/A		
JAN	.000 NAF	.000 NAF	.000 NAF	.000 NAF	.000 NAF	.000 NAF
FEB	.000 NAF	.000 NAF	.000 NAF	.000 NAF	.000 NAF	.000 NAF
MAR	.000 NAF	.000 NAF	.000 NAF	.000 NAF	.000 NAF	.000 NAF
APR	.000 NAF	.000 NAF	.000 NAF	.000 NAF	.000 NAF	.000 NAF
MAY	.000 NAF	.000 NAF	.000 NAF	.000 NAF	.000 NAF	.000 NAF
JUN	.000 NAF	.000 NAF	.000 NAF	.000 NAF	.000 NAF	.000 NAF
JUL	.000 NAF	.000 NAF	.000 NAF	.000 NAF	.000 NAF	.000 NAF
AUG	4.330	3.746	.684	3.284	1.761	1.408
SEP	2.726	3.313	1.315	4.028	2.985	4.125
OCT	2.145	2.686	4.088	2.898	3.255	4.340
NOV	.967	4.144	7.095	.193	.417	1.661
DEC	8.310	.000 NAF	6.463	10.110	3.766	5.936
LANGLIERS INDEX (DIMENSIONLESS)						
	DET'N LIMIT = N/A			GUIDELINE = N/A		
JAN	.289 NAF	-.006 NAF	.281 NAF	.143 NAF	.153 NAF	.
FEB	.298 NAF	.068 NAF	.269 NAF	.255 NAF	.369 NAF	.332 NAF
MAR	.326 NAF	.363 NAF	.273 NAF	.384 NAF	.288 NAF	.382 NAF
APR	.474 NAF	.482 NAF	.284 NAF	.218 NAF	.305 NAF	.333 NAF
MAY	.474 NAF	.471 NAF	.	.421 NAF	.379 NAF	.432 NAF
JUN	.503 NAF	.416 NAF	.410 NAF	.387 NAF	.395 NAF	.392 NAF
JUL	.193 NAF	.219 NAF	.219 NAF	.179 NAF	.224 NAF	.253 NAF
AUG	.503	.231	.302	.332	.440	.414
SEP	.489	.419	.383	.371	.419	.425
OCT	.487	.414	.418	.419	.437	.459
NOV	.346	-1.898	.012	-.017	.109	.097
DEC	.501	.	.339	.277	.273	.372
MAGNESIUM (MG/L)						
	DET'N LIMIT = .050			GUIDELINE = 30 (F2)		
JAN	8.400	8.300	8.300	8.200	8.300	115

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM ST THOMAS (ELGIN WSS) 1988

SITE TYPE	WATER TREATMENT PLANT				DISTRIBUTION SYSTEM	
	RAW	TREATED	SITE 1		SITE 2	
			STANDING	FREE FLOW	STANDING	FREE FLOW
FEB	8.400	8.400	8.200	8.500	8.400	8.500
MAR	8.200	8.700	8.300	8.600	8.600	8.700
APR	8.800	8.500	8.500	8.500	8.800	8.600
MAY	8.400	8.300	8.400	8.300	8.200	8.100
JUN	8.100	8.150	8.200	7.850	7.700	8.200
JUL	8.500	8.100	8.200	8.300	8.400	8.300
AUG	8.200	8.200	8.400	8.300	8.400	8.300
SEP	8.800	8.900	8.700	8.900	8.700	8.800
OCT	8.800	8.800	8.900	8.900	8.800	8.900
NOV	8.800	8.800	8.700	8.400	8.300	8.300
DEC	9.100	115	8.900	8.900	9.000	8.700
SODIUM (MG/L)						
			DET'M LIMIT = .200		GUIDELINE = 200 (C3)	
JAN	7.600	8.000	8.000	8.200	8.200	115
FEB	7.600	7.800	7.600	7.400	7.600	7.400
MAR	7.600	8.600	8.200	8.400	8.200	7.800
APR	8.200	10.000	9.200	9.000	9.000	9.200
MAY	8.600	9.000	9.000	9.200	7.600	8.000
JUN	8.300	8.640	8.500	8.600	8.800	8.800
JUL	7.400	7.400	8.000	8.000	14.800	12.400
AUG	7.800	8.400	8.400	8.400	8.400	8.400
SEP	7.600	7.600	7.600	8.000	8.000	7.800
OCT	7.800	8.000	8.200	8.400	8.600	8.400
NOV	7.600	8.000	8.000	7.800	7.800	7.600
DEC	8.000	115	8.800	8.600	8.600	8.400
AMMONIUM TOTAL (MG/L)						
			DET'M LIMIT = 0.002		GUIDELINE = .05 (F2)	
JAN	.010	.006 <T	.024	.008 <T	.012	115
FEB	.006 <T	.004 <T	.002 <T	.004 <T	115	.004 <T
MAR	.034	.008 <T	.014	.010	.010	.008 <T
APR	.006 <T	115	.016	.014	.012	.008 <T
MAY	.028	.010	115	.010	.012	.012
JUN	.038	.008 <T	.010	.008 <T	.014	.010
JUL	.098	.012	.014	.010	.030	.040
AUG	.004 <T	.012	.012	.012	.012	.018
SEP	.002 <T	.002 <T	.004 <T	.004 <T	MDL	.002 <T
OCT	.008 <T	.006 <T	.010	.008 <T	.012	.008 <T
NOV	MDL	.004 <T	.004 <T	.004 <T	.004 <T	.006 <T
DEC	.014	115	.014	.012	.012	.012
NITRITE (MG/L)						
			DET'M LIMIT = 0.001		GUIDELINE = 1.000 (A1)	
JAN	.010	MDL	.001 <T	.001 <T	.001 <T	115

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM ST THOMAS (ELGIN WSS) 1988

WATER TREATMENT PLANT

DISTRIBUTION SYSTEM

SITE TYPE	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM			
	RAW	TREATED	SITE 1		SITE 2	
			STANDING	FREE FLOW	STANDING	FREE FLOW
FEB	.007	.001 <T	.002 <T	.001 <T	118	.002 <T
MAR	.016	BDL	.001 <T	.001 <T	.001 <T	BDL
APR	.008	118	.002 <T	.001 <T	.001 <T	.001 <T
MAY	.022	.001 <T	118	.001 <T	.002 <T	.001 <T
JUN	.005	BDL	BDL	BDL	.001 <T	BDL
JUL	.025	.001 <T	.001 <T	BDL	.002 <T	.002 <T
AUG	BDL	.002 <T	.001 <T	.002 <T	.002 <T	.001 <T
SEP	.001 <T	BDL	BDL	BDL	.001 <T	.001 <T
OCT	.004 <T	.001 <T	.002 <T	.001 <T	.002 <T	.002 <T
NOV	.008	.003 <T	.001 <T	.003 <T	.007	.008
DEC	.007	118	.004 <T	.004 <T	.005	.004 <T
TOTAL NITRATES (MG/L) DET'N LIMIT = .020 GUIDELINE = 10.000 (A1)						
JAN	.145	.140	.125	.110	.165	118
FEB	.210	.205	.155	.165	118	.175
MAR	.245	.235	.220	.215	.210	.205
APR	.355	118	.205	.220	.340	.340
MAY	.145	.125	118	.140	.135	.140
JUN	.110	.105	.110	.110	.105	.100
JUL	.210	.170	.165	.155	.155	.155
AUG	.305	.165	.165	.165	.160	.160
SEP	.130	.080 <T	.080 <T	.075 <T	.075 <T	.080 <T
OCT	.045 <T	.035 <T	.040 <T	.040 <T	.030 <T	.030 <T
NOV	.060 <T	.040 <T	.045 <T	.065 <T	.035 <T	.040 <T
DEC	BDL	118	BDL	BDL	.060 <T	.060 <T
NITROGEN TOT KJELD (MG/L) DET'N LIMIT = .020 GUIDELINE = N/A						
JAN	.370	.160	.220	.120	.160	118
FEB	.210	.150	.190	.150	.190	.150
MAR	.040 <T	.050 <T	.020 <T	.030 <T	.030 <T	1.500
APR	.300	118	.210	.160	.230	.170
MAY	.230	.180	118	.220	.250	.150
JUN	.260	.150	.150	.150	.170	.150
JUL	.420	.230	.260	.180	.230	.200
AUG	.280	.150	.170	.170	.160	.150
SEP	.400	.210	.060 <T	.170	.170	.160
OCT	.240	.130	.140	.110	.140	.130
NOV	.575	.130	.120	.130	.140	.140
DEC	.340	118	.150	.150	.150	.150
PH (DIMENSIONLESS) DET'N LIMIT = N/A GUIDELINE = 6.5-8.5(A4)						
JAN	8.170	7.840	8.210	8.080	8.060	8.300

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM ST THOMAS (ELGIN WSS) 1988

SITE TYPE	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM			
	RAW	TREATED	SITE 1		SITE 2	
			STANDING	FREE FLOW	STANDING	FREE FLOW
FEB	8.190	8.010	8.190	8.170	8.280	8.240
MAR	8.170	8.150	8.160	8.270	8.160	8.250
APR	8.270	8.350	8.150	8.080	8.140	8.180
MAY	8.320	8.350	118	8.290	8.250	8.300
JUN	8.370	8.310	8.300	8.290	8.290	8.280
JUL	8.000	8.100	8.100	8.060	8.090	8.130
AUG	8.300	8.070	8.120	8.160	8.270	8.240
SEP	8.350	8.320	8.300	8.280	8.320	8.320
OCT	8.320	8.290	8.280	8.290	8.290	8.310
NOV	8.200	1CR	7.920	7.900	8.020	8.010
DEC	8.370	118	8.260	8.190	8.180	8.250

PHOSPHORUS FIL REACT (MG/L)			DET'M LIMIT = .0005		GUIDELINE = N/A	
JAN	.021	.002 <T	.	.	.	.
FEB	.004	.000 <T	.	.	.	.
MAR	.005	BDL	.	.	.	.
APR	.016	118	.	.	.	.
MAY	.003	.000 <T	.	.	.	.
JUN	.002 <T	.001 <T	.	.	.	.
JUL	.007	.002 <T	.	.	.	.
AUG	.003	.001 <T	.	.	.	.
SEP	.002 <T	.000 <T	.	.	.	.
OCT	.005	.001 <T	.	.	.	.
NOV	.011	.001 <T	.	.	.	.
DEC	.007	118	.	.	.	.

PHOSPHORUS TOTAL (MG/L)			DET'M LIMIT = .002		GUIDELINE = .40 (F2)	
JAN	.092	.003 <T	.	.	.	.
FEB	.016	.002 <T	.	.	.	.
MAR	.031	.087	.	.	.	.
APR	.065	118	.	.	.	.
MAY	.017	.003 <T	.	.	.	.
JUN	.030	.005 <T	.	.	.	.
JUL	.064	.005 <T	.	.	.	.
AUG	.029	BDL	.	.	.	.
SEP	.050	BDL	.	.	.	.
OCT	.044	.003 <T	.	.	.	.
NOV	.215	BDL	.	.	.	.
DEC	.070	118	.	.	.	.

TOTAL SOLIDS (MG/L)			DET'M LIMIT = 1.		GUIDELINE = 500 (A3)	
JAN	176 CRO	188 CRO	193 CRO	195 CRO	198 CRO	196 CRO

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM ST THOMAS (ELGIN WSS) 1988

WATER TREATMENT PLANT

DISTRIBUTION SYSTEM

SITE		RAW	TREATED	SITE 1		SITE 2	
TYPE				STANDING	FREE FLOW	STANDING	FREE FLOW

SULPHATE ()				DET'N LIMIT = .200		GUIDELINE = 500. (A3)	
AUG		23.640	28.750	28.050	28.370	28.590	28.560
SEP		22.320	27.190	27.500	26.940	27.350	27.360
OCT		22.100	28.600	28.800	29.100	29.100	29.300
NOV		21.140	32.130	29.910	30.600	26.950	27.090
DEC		26.000	115	33.500	37.000	36.000	35.000

TURBIDITY (FTU)				DET'N LIMIT = .02		GUIDELINE = 1.00 (A1)	
JAN		116.000	.160	.210	.150	.090 <T	115
FEB		6.000	.140	.160	.140	115	.170
MAR		4.100	.080 <T	.200	.080 <T	.130	.090 <T
APR		11.200	115	.150	.140	.140	.090 <T
MAY		6.100	.090 <T	.900	.090 <T	.140	.090 <T
JUN		10.100	.220	.210	.270	.220	.310
JUL		2.600	.500	1.100	.370	.600	.390
AUG		8.200	.420	.340	.390	.420	.330
SEP		31.000	.540	.950	.560	.670	.650
OCT		21.000	.480	.550	.380	.450	.420
NOV		159.000	.210 <T	.810	.190 <T	.260	.240 <T
DEC		65.000	115	.190 <T	.320	.230 <T	.540

DRINKING WATER SURVEILLANCE PROGRAM ST THOMAS (ELGIN VSS) 1988

WATER TREATMENT PLANT				DISTRIBUTION SYSTEM		
SITE TYPE	RAW	TREATED	SITE 1		SITE 2	
			STANDING	FREE FLOW	STANDING	FREE FLOW

METALS						
SILVER (UG/L)			DET'N LIMIT = .020		GUIDELINE = 50. (A1)	
JAN	.020 <T	.020 <T	.020 <T	.020 <T	.180 <T	.020 <T
FEB	BDL	11S	.940	.070 <T	.050 <T	BDL
MAR	BDL	BDL	.040 <T	.030 <T	.100 <T	.020 <T
APR	BDL	BDL	.050 <T	IRE	.080 <T	BDL
MAY	BDL	BDL	.300 <T	.030 <T	.040 <T	.040 <T
JUN	BDL	BDL	BDL	BDL	BDL	BDL
JUL	BDL	.120 <T	.610	.090 <T	.090 <T	BDL
AUG	BDL	BDL	BDL	BDL	BDL	.140 <T
SEP	BDL	.030 <T	.180 <T	.150 <T	.060 <T	.040 <T
OCT	BDL	BDL	.050 <T	BDL	BDL	.050 <T
NOV	BDL	BDL	BDL	BDL	.060 <T	BDL
DEC	BDL	BDL	BDL	BDL	BDL	BDL

ALUMINUM (UG/L)			DET'N LIMIT = .050		GUIDELINE = 100.(A4)	
JAN	2784.000	24.360	27.840	25.520	26.680	22.040
FEB	139.200	11S	62.640	60.320	53.360	127.600
MAR	67.280	47.560	47.560	45.240	67.280	54.520
APR	336.400	33.640	38.280	IRE	37.120	29.000
MAY	92.800	67.280	78.880	69.600	67.280	51.040
JUN	106.720	76.560	73.080	98.600	80.040	73.080
JUL	116.000	99.760	97.440	89.320	67.280	71.920
AUG	162.400	61.480	62.640	66.120	71.920	62.640
SEP	11.484	208.800	162.400	185.600	127.600	150.800
OCT	174.000	139.200	103.240	127.600	111.360	112.520
NOV	649.600	58.000	59.160	60.320	75.400	68.440
DEC	417.600	67.280	54.520	56.840	54.520	46.400

ARSENIC (UG/L)			DET'N LIMIT = 0.050		GUIDELINE = 50.0 (A1)	
JAN	1.300	.320 <T	.350 <T	.320 <T	.350 <T	.410 <T
FEB	.690 <T	11S	.380 <T	.370 <T	.380 <T	.220 <T
MAR	.360 <T	BDL	.070 <T	BDL	.160 <T	.060 <T
APR	BDL	BDL	BDL	IRE	.060 <T	BDL
MAY	.600 <T	.400 <T	.240 <T	.360 <T	.280 <T	.240 <T
JUN	.840 <T	.330 <T	.440 <T	.450 <T	.470 <T	.350 <T
JUL	.780 <T	.540 <T	.260 <T	.200 <T	BDL	BDL
AUG	.640 <T	.120 <T	.220 <T	.170 <T	.170 <T	.630 <T
SEP	.950 <T	.600 <T	.530 <T	.650 <T	.660 <T	.580 <T
OCT	1.900	.540 <T	.670 <T	.650 <T	.740 <T	.770 <T
NOV	1.900	.310 <T	.140 <T	.150 <T	.320 <T	.080 <T
DEC	1.200	.230 <T	.470 <T	.260 <T	.220 <T	.430 <T

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM ST THOMAS (ELGIN WSS) 1988

WATER TREATMENT PLANT

DISTRIBUTION SYSTEM

SITE		RAW	TREATED	SITE 1		SITE 2	
TYPE				STANDING	FREE FLOW	STANDING	FREE FLOW
BARIUM (UG/L)		DET'N LIMIT = 0.020		GUIDELINE = 1000. (A1)			
JAN		32.000	23.000	23.000	22.000	24.000	22.000
FEB		22.000	11S	23.000	22.000	22.000	17.000
MAR		20.000	18.000	18.000	18.000	22.000	21.000
APR		28.000	24.000	22.000	1RE	23.000	22.000
MAY		24.000	22.000	22.000	22.000	23.000	21.000
JUN		22.000	21.000	23.000	23.000	21.000	23.000
JUL		23.000	22.000	22.000	22.000	32.000	28.000
AUG		24.000	23.000	24.000	24.000	25.000	28.000
SEP		22.000	22.000	23.000	22.000	23.000	22.000
OCT		26.000	25.000	25.000	25.000	26.000	25.000
NOV		33.000	24.000	24.000	23.000	22.000	22.000
DEC		30.000	23.000	21.000	22.000	23.000	22.000
BORON ()		DET'N LIMIT = 0.200		GUIDELINE = 5000. (A1)			
JAN		.	.	19.000 <T	19.000 <T	20.000	19.000 <T
FEB		21.000	11S	24.000	23.000	22.000	6.000 <T
MAR		19.000 <T	19.000 <T	21.000	19.000 <T	22.000	21.000
APR		21.000	21.000	23.000	1RE	23.000	22.000
MAY		20.000 <T	17.000 <T	18.000 <T	18.000 <T	17.000 <T	17.000 <T
JUN		19.000 <T	19.000 <T	19.000 <T	21.000	20.000 <T	22.000
JUL		26.000	22.000	23.000	22.000	48.000	43.000
AUG		19.000 <T	22.000	46.000	51.000	51.000	51.000
SEP		33.000	23.000	34.000	20.000 <T	22.000	21.000
OCT		51.000	32.000	34.000	23.000	28.000	43.000
NOV		24.000	42.000	23.000	30.000	43.000	21.000
DEC		24.000	25.000	46.000	51.000	24.000	22.000
JAN		1AM	1AM	.	.	.	.
BERYLLIUM (UG/L)		DET'N LIMIT = 0.010		GUIDELINE = .20 (H)			
JAN		.070 <T	.020 <T	BDL	BDL	BDL	BDL
FEB		BDL	11S	BDL	.040 <T	BDL	.020 <T
MAR		.040 <T	.030 <T	.020 <T	.030 <T	BDL	BDL
APR		BDL	BDL	.020 <T	1RE	.030 <T	.020 <T
MAY		BDL	BDL	BDL	BDL	BDL	BDL
JUN		BDL	BDL	BDL	BDL	BDL	BDL
JUL		.030 <T	.050 <T	.030 <T	BDL	.040 <T	.030 <T
AUG		.020 <T	BDL	.020 <T	BDL	BDL	.060 <T
SEP		BDL	BDL	BDL	.040 <T	BDL	BDL
OCT		.060 <T	.120 <T	.060 <T	BDL	BDL	.090 <T
NOV		.120 <T	.080 <T	BDL	.040 <T	.090 <T	BDL
DEC		.050 <T	.020 <T	.080 <T	.030 <T	.020 <T	BDL

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM ST THOMAS (ELGIN WSS) 1988

SITE TYPE	WATER TREATMENT PLANT			DISTRIBUTION SYSTEM		
	RAW	TREATED	SITE 1	SITE 2		
			STANDING	FREE FLOW	STANDING	FREE FLOW
CADMIUM (UG/L)	DET'N LIMIT = 0.050			GUIDELINE = 5.000 (A1)		
JAN	.070 <T	BDL	.050 <T	BDL	BDL	BDL
FEB	BDL	IIS	.060 <T	BDL	.070 <T	BDL
MAR	.050 <T	BDL	BDL	BDL	.070 <T	BDL
APR	BDL	BDL	.070 <T	IRE	BDL	BDL
MAY	BDL	BDL	BDL	BDL	.070 <T	BDL
JUN	.060 <T	.060 <T	.070 <T	.080 <T	.070 <T	BDL
JUL	BDL	.060 <T	.090 <T	BDL	BDL	BDL
AUG	BDL	BDL	BDL	BDL	BDL	BDL
SEP	BDL	BDL	BDL	.060 <T	BDL	BDL
OCT	BDL	BDL	BDL	BDL	BDL	BDL
NOV	.090 <T	BDL	BDL	BDL	BDL	BDL
DEC	BDL	BDL	BDL	BDL	BDL	BDL
COBALT (UG/L)	DET'N LIMIT = 0.020			GUIDELINE = 1000 (N)		
JAN	1.100	.130 <T	.130 <T	.110 <T	.720 <T	.100 <T
FEB	.130 <T	IIS	.060 <T	.040 <T	.060 <T	.140 <T
MAR	.070 <T	BDL	.080 <T	.040 <T	.650 <T	BDL
APR	1.000	.570 <T	.440 <T	IRE	.530 <T	.480 <T
MAY	.190 <T	.070 <T	.080 <T	.050 <T	.040 <T	.080 <T
JUN	.240 <T	.070 <T	.110 <T	.060 <T	.090 <T	.030 <T
JUL	.200 <T	.090 <T	.080 <T	.080 <T	.130 <T	.100 <T
AUG	.310 <T	.150 <T	.090 <T	.120 <T	.120 <T	.110 <T
SEP	BDL	.070 <T	.090 <T	.120 <T	.110 <T	.090 <T
OCT	.420 <T	.210 <T	.230 <T	.190 <T	.170 <T	.030 <T
NOV	1.400	.160 <T	.130 <T	.160 <T	.170 <T	.160 <T
DEC	.800 <T	.110 <T	.120 <T	.110 <T	.140 <T	.120 <T
CHROMIUM (UG/L)	DET'N LIMIT = 0.100			GUIDELINE = 50. (A1)		
JAN	1.400	.120 <T	BDL	BDL	.160 <T	BDL
FEB	3.900	IIS	.410 <T	.280 <T	.250 <T	.450 <T
MAR	.340 <T	.170 <T	.570 <T	.260 <T	4.200	.100 <T
APR	.800 <T	.150 <T	.160 <T	IRE	.160 <T	.140 <T
MAY	.950 <T	.180 <T	5.800	.270 <T	.270 <T	.250 <T
JUN	.330 <T	.130 <T	BDL	BDL	.120 <T	BDL
JUL	1.300	.220 <T	.370 <T	.390 <T	.450 <T	.460 <T
AUG	.490 <T	.210 <T	3.700	4.100	3.900	3.700
SEP	1.600	.470 <T	1.300	BDL	.250 <T	BDL
OCT	6.400	2.000	2.300	.180 <T	1.100	6.000
NOV	2.500	5.700	.980 <T	2.400	5.800	.370 <T
DEC	.850 <T	.470 <T	4.300	5.200	.520 <T	.550 <T
COPPER (UG/L)	DET'N LIMIT = .100			GUIDELINE = 1000 (A3)		

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM ST THOMAS (ELGIN WSS) 1988

SITE TYPE	WATER TREATMENT PLANT				DISTRIBUTION SYSTEM	
	RAW	TREATED	SITE 1		SITE 2	
			STANDING	FREE FLOW	STANDING	FREE FLOW
JAN	2.600	.930 <T	12.000	2.400	19.000	3.200
FEB	1.300	ISS	8.600	2.900	22.000	11.000
MAR	2.100	.780 <T	4.300	3.100	26.000	2.800
APR	2.000	1.100	5.700	IRE	25.000	3.500
MAY	1.300	.900 <T	7.000	2.200	30.000	3.900
JUN	1.400	1.000 <T	13.000	3.200	25.000	3.900
JUL	1.700	1.100	45.000	3.600	22.000	3.800
AUG	2.200	.910 <T	3.800	3.200	28.000	5.300
SEP	1.100	1.100	7.600	3.800	18.000	3.700
OCT	1.700	.970 <T	85.000	5.000	17.000	3.600
NOV	3.900	2.600	2.600	17.000	19.000	3.100
DEC	2.700	1.200	3.500	2.000	19.000	3.000
IRON (UG/L)						
			DET'N LIMIT = 4.000		GUIDELINE = 300. (A3)	
FEB	190.000	ISS	8.800 <T	8.500 <T	19.000 <T	38.000 <T
MAR	100.000	6.800 <T	7.200 <T	5.300 <T	120.000	7.700 <T
APR	610.000	10.000 <T	BDL	IRE	6.800 <T	10.000 <T
MAY	170.000	26.000 <T	19.000 <T	8.300 <T	16.000 <T	9.400 <T
JUN	220.000	33.000 <T	17.000 <T	17.000 <T	100.000	62.000
JUL	240.000	20.000 <T	14.000 <T	9.900 <T	67.000	47.000 <T
AUG	340.000	15.000 <T	BDL	BDL	20.000 <T	13.000 <T
SEP	BDL	6.200 <T	5.700 <T	BDL	20.000 <T	29.000 <T
OCT	310.000	13.000 <T	5.800 <T	BDL	16.000 <T	10.000 <T
NOV	1700.000	17.000 <T	5.600 <T	5.500 <T	18.000 <T	18.000 <T
DEC	910.000	BDL	BDL	BDL	BDL	9.700 <T
JAN	1500.000	9.400 <T	10.000 <T	7.500 <T	18.000 <T	12.000 <T
MERCURY (UG/L)						
			DET'N LIMIT = 0.010		GUIDELINE = 1.000 (A1)	
JAN	.010	.010	.	.010	.	.010
FEB	.010	.020	.	.010	.	.010
MAR	.010	.010	.	ISS	.	.010
APR	.010	.010	.	.010	.	.010
MAY	.010	.010	.	BDL	.	BDL
JUN	BDL	BDL	.	.020 <T	.	BDL
JUL	BDL	BDL	.	.070	.	.020 <T
AUG	.020 <T	.030 <T	.	.030 <T	.	.040 <T
SEP	.020 <T	.040 <T	.	.030 <T	.	.030 <T
OCT	.090	.070	.	.040 <T	.	.080
NOV	.030 <T	.030 <T	.	.030 <T	.	.040 <T
DEC	.080	.030 <T	.	ISM	.	.040 <T
MANGANESE (UG/L)						
			DET'N LIMIT = .050		GUIDELINE = 50.0 (A3)	

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM ST THOMAS (ELGIN WSS) 1988

WATER TREATMENT PLANT

DISTRIBUTION SYSTEM

SITE TYPE	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM			
	RAW	TREATED	SITE 1		SITE 2	
			STANDING	FREE FLOW	STANDING	FREE FLOW
JAN	110.000	2.300	1.300	1.500	2.500	2.000
FEB	9.900	118	.780	.760	1.300	3.700
MAR	8.900	.670	.640	.680	1.600	1.300
APR	33.000	1.000	.710	IRE	.850	1.400
MAY	14.000	.640	.970	.520	.580	1.200
JUN	18.000	1.100	.820	.920	2.200	1.800
JUL	26.000	1.300	1.400	1.200	8.900	3.700
AUG	48.000	1.200	.840	.900	3.200	2.000
SEP	.210 <T	.670	.710	.500 <T	3.000	3.200
OCT	41.000	.560	.840	.540	2.200	1.700
NOV	220.000	1.600	.950	.900	1.300	1.500
DEC	100.000	1.000	.800	.830	1.400	1.500

MOLYBDENUM (UG/L)						
			DET'N LIMIT = 0.020		GUIDELINE = 500 (N)	
JAN	.480 <T	1.200	1.100	1.200	1.200	1.100
FEB	.970	118	1.200	1.200	1.200	.130 <T
MAR	.910	1.000	1.100	1.000	4.800	1.100
APR	.590	1.200	1.100	IRE	1.200	1.100
MAY	1.000	1.100	1.100	1.100	1.100	1.100
JUN	1.100	1.300	1.200	1.200	1.200	1.100
JUL	1.000	1.200	1.200	1.200	2.500	1.900
AUG	1.100	1.200	1.300	1.200	1.200	1.300
SEP	1.200	1.200	1.200	1.300	1.200	1.100
OCT	1.000	1.200	1.100	1.400	1.200	1.200
NOV	.370 <T	1.200	1.300	1.200	1.200	1.200
DEC	.570	1.200	1.100	1.200	1.200	1.200

NICKEL (UG/L)						
			DET'N LIMIT = 0.100		GUIDELINE = 50. (F3)	
JAN	3.200	1.000 <T	1.800	1.200 <T	1.400	.820 <T
FEB	.900 <T	118	1.100 <T	.420 <T	.270 <T	7.800
MAR	1.000 <T	.580 <T	1.200 <T	.410 <T	3.100	BDL
APR	2.500	1.600	3.400	IRE	2.800	2.900
MAY	1.900 <T	1.200 <T	2.400	1.100 <T	1.300 <T	1.400 <T
JUN	1.000 <T	.550 <T	1.200 <T	.430 <T	1.200 <T	.170 <T
JUL	1.500 <T	1.100 <T	1.600 <T	.970 <T	2.900	.850 <T
AUG	.990 <T	.640 <T	.860 <T	.570 <T	1.600 <T	.990 <T
SEP	.720 <T	.660 <T	2.500	1.000 <T	1.500 <T	.590 <T
OCT	3.400	1.700 <T	4.500	2.500	2.200	BDL
NOV	.520 <T	BDL	BDL	3.800	.970 <T	BDL
DEC	1.700 <T	.710 <T	1.600 <T	1.300 <T	1.900 <T	1.300 <T

LEAD (UG/L)						
			DET'N LIMIT = 0.050		GUIDELINE = 50. (A1)	
JAN	2.200	.190 <T	2.000	.400	1.900	.330

DRINKING WATER SURVEILLANCE PROGRAM ST THOMAS (ELGIN USS) 1988

WATER TREATMENT PLANT					DISTRIBUTION SYSTEM	
SITE TYPE	RAW	TREATED	SITE 1		SITE 2	
			STANDING	FREE FLOW	STANDING	FREE FLOW
FEB	.280	11S	1.600	.450	1.900	.290
MAR	.350	.040 <T	.720	.240	2.600	.240
APR	.560	BDL	1.400	IRE	2.000	.390
MAY	.270	.050 <T	1.400	.310	2.400	.470
JUN	.320	.040 <T	5.400	.700	3.200	.520
JUL	.300	.040 <T	4.300	.470	2.600	.410
AUG	.400	BDL	.570	.450	3.300	.650
SEP	BDL	.040 <T	1.200	.460	2.200	.530
OCT	.600	BDL	1.800	.400	2.500	.580
NOV	2.900	.160 <T	.350	3.500	1.800	.360
DEC	1.900	.080 <T	.790	.250	1.800	.340
ANTIMONY (UG/L)		DET'N LIMIT = .050		GUIDELINE = 146. (D4)		
JAN	.180 <T	.190 <T	.200	.200	.230	.210
FEB	.230	11S	.270	.200	.270	.060 <T
MAR	.190 <T	.180 <T	.150 <T	.160 <T	.240	.160 <T
APR	.130 <T	.200 <T	.280	IRE	.290	.180 <T
MAY	.210	.200 <T	.230	.210	.220	.210
JUN	.220	.270	.260	.230	.290	.240
JUL	.240	.230	.240	.210	.280	.200 <T
AUG	.500	.550	.530	.590	.780	.710
SEP	.340	.460	.510	.490	.580	.480
OCT	.480	.720	.540	.530	.530	.590
NOV	.340	.680	.640	.630	.680	.580
DEC	.260	.310	.330	.290	.370	.350
SELENIUM (UG/L)		DET'N LIMIT = 0.200		GUIDELINE = 10. (A1)		
JAN	.660 <T	.900 <T	.310 <T	.520 <T	.510 <T	.390 <T
FEB	.730 <T	11S	1.300 <T	.780 <T	1.700 <T	.900 <T
MAR	.740 <T	.610 <T	.950 <T	1.100 <T	1.500 <T	1.400 <T
APR	1.100 <T	.480 <T	1.000 <T	IRE	.560 <T	1.600 <T
MAY	2.000 <T	1.800 <T	2.100 <T	2.200 <T	1.100 <T	2.900 <T
JUN	.350 <T	BDL	.290 <T	.410 <T	1.900 <T	1.600 <T
JUL	2.600 <T	1.000 <T	1.700 <T	2.400 <T	1.600 <T	2.000 <T
AUG	.220 <T	1.200 <T	1.000 <T	1.400 <T	2.000 <T	1.800 <T
SEP	1.400 <T	1.400 <T	.750 <T	1.500 <T	1.200 <T	1.900 <T
OCT	BDL	2.700 <T	3.500 <T	.870 <T	2.800 <T	4.700 <T
NOV	.280 <T	2.300 <T	.890 <T	1.900 <T	2.600 <T	1.900 <T
DEC	.550 <T	1.400 <T	2.000 <T	2.400 <T	3.400 <T	1.100 <T
STRONTIUM (UG/L)		DET'N LIMIT = .050		GUIDELINE = 2000.(H)		
JAN	170.000	160.000	160.000	150.000	160.000	160.000

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM ST THOMAS (ELGIN WSS) 1988

WATER TREATMENT PLANT

DISTRIBUTION SYSTEM

SITE TYPE	RAW	TREATED	SITE 1		SITE 2	
			STANDING	FREE FLOW	STANDING	FREE FLOW
FEB	150.000	115	170.000	160.000	160.000	30.000
MAR	140.000	140.000	150.000	140.000	170.000	160.000
APR	190.000	180.000	160.000	1RE	160.000	160.000
MAY	160.000	150.000	150.000	150.000	150.000	160.000
JUN	170.000	170.000	170.000	160.000	160.000	160.000
JUL	160.000	160.000	160.000	160.000	220.000	200.000
AUG	160.000	170.000	180.000	160.000	170.000	180.000
SEP	170.000	170.000	170.000	160.000	160.000	160.000
OCT	180.000	160.000	160.000	160.000	170.000	160.000
NOV	190.000	160.000	160.000	160.000	160.000	150.000
DEC	160.000	150.000	150.000	150.000	150.000	150.000
TITANIUM (UG/L)						
			DET'N LIMIT = .050		GUIDELINE = N/A	
JAN	13.000	2.300	2.500	2.700	2.500	2.300
FEB	11.000	115	7.800	7.900	7.600	5.700
MAR	8.300	6.300	6.800	6.900	7.600	7.500
APR	16.000	5.700	5.500	1RE	5.000	5.000
MAY	5.900	2.500	2.800	2.600	2.700	3.000
JUN	5.600	2.600	2.200	2.400	2.600	2.500
JUL	7.500	3.300	3.600	3.600	3.800	3.700
AUG	13.000	9.600	10.000	11.000	11.000	11.000
SEP	5.800	5.300	6.000	5.200	4.500	4.900
OCT	8.800	3.200	3.200	3.400	2.800	3.200
NOV	12.000	1.300 <T	1.300 <T	1.200 <T	1.500 <T	1.200 <T
DEC	12.000	2.800	2.900	2.800	2.300	2.600
THALLIUM (UG/L)						
			DET'N LIMIT = .010		GUIDELINE = 13. (D4)	
JAN	.050 <T	.020 <T	.020 <T	.020 <T	.020 <T	.010 <T
FEB	.030 <T	115	.030 <T	.020 <T	.020 <T	.050 <T
MAR	BDL	BDL	BDL	.010 <T	BDL	BDL
APR	BDL	BDL	BDL	1RE	BDL	BDL
MAY	BDL	BDL	BDL	BDL	BDL	BDL
JUN	BDL	.020 <T	BDL	BDL	BDL	.020 <T
JUL	BDL	BDL	BDL	BDL	BDL	BDL
AUG	BDL	BDL	BDL	BDL	BDL	BDL
SEP	BDL	BDL	BDL	.020 <T	BDL	BDL
OCT	.020 <T	BDL	BDL	BDL	BDL	.020 <T
NOV	.030 <T	BDL	BDL	BDL	BDL	.020 <T
DEC	.020 <T	BDL	.040 <T	.020 <T	BDL	BDL
URANIUM (UG/L)						
			DET'N LIMIT = .020		GUIDELINE = 20. (A2)	
JAN	.400	.200	.200	.200	.200	.200

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM ST THOMAS (ELGIN MSS) 1988

SITE TYPE	WATER TREATMENT PLANT				DISTRIBUTION SYSTEM	
	RAW	TREATED	SITE 1		SITE 2	
			STANDING	FREE FLOW	STANDING	FREE FLOW
FEB	.360	.118	.320	.330	.330	.040 <T
MAR	.310	.290	.230	.280	.310	.280
APR	.410	.190 <T	.270	.1RE	.250	.250
MAY	.350	.290	.290	.280	.280	.300
JUN	.370	.260	.330	.270	.270	.290
JUL	.280	.280	.240	.230	.180 <T	.200 <T
AUG	.390	.210	.220	.220	.200 <T	.270
SEP	.280	.210	.210	.310	.250	.250
OCT	.400	.210	.200 <T	.260	.270	.260
NOV	.450	.150 <T	.200 <T	.160 <T	.220	.220
DEC	.460	.250	.250	.280	.230	.230
VANADIUM (UG/L)						
			DET'N LIMIT = .050		GUIDELINE = 100 (M)	
JAN	2.000	.380 <T	.380 <T	.370 <T	.330 <T	.390 <T
FEB	.420	.118	.340 <T	.280 <T	.310 <T	.570
MAR	.280 <T	.340 <T	.310 <T	.330 <T	2.000	.300 <T
APR	1.100	.510	.550	.1RE	.510	.480
MAY	.420 <T	.370 <T	.490 <T	.420 <T	.510	.430 <T
JUN	.390 <T	.370 <T	.320 <T	.340 <T	.440 <T	.340 <T
JUL	.490 <T	.520	.500 <T	.500 <T	.440 <T	.420 <T
AUG	.560	.590	.550	.580	.630	.590
SEP	.310 <T	.610	.670	.590	.540	.620
OCT	.760	.530	.430 <T	.580	.440 <T	.420 <T
NOV	2.600	.550	.540	.550	.470 <T	.430 <T
DEC	1.400	.500 <T	.480 <T	.460 <T	.450 <T	.410 <T
ZINC (UG/L)						
			DET'N LIMIT = .001		GUIDELINE = 5000. (A3)	
JAN	7.100	2.000	10.000	1.400	14.000	1.200
FEB	1.200	.118	12.000	4.100	10.000	1.500
MAR	6.500	1.600	5.000	1.700	12.000	1.000
APR	3.400	1.800	7.000	.1RE	8.800	1.500
MAY	1.600	.670 <T	9.100	1.600	5.400	1.200
JUN	1.800	1.200	8.600	5.100	7.600	1.900
JUL	2.700	1.300	28.000	2.000	6.300	1.600
AUG	1.700	1.100	1.900	1.600	4.800	1.300
SEP	.530 <T	1.200	5.200	1.700	5.700	1.300
OCT	2.000	.660 <T	6.900	1.600	5.400	1.000 <T
NOV	8.700	.840 <T	1.600	11.000	4.700	.910 <T
DEC	5.600	1.900	2.700	1.400	4.300	1.800

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM ST THOMAS (ELGIN WSS) 1988

WATER TREATMENT PLANT				DISTRIBUTION SYSTEM			
SITE	RAW	TREATED	SITE 1	SITE 2			
TYPE				STANDING	FREE FLOW	STANDING	FREE FLOW

PESTICIDES & PCB							
ALPHA BHC (NG/L)	DET'N LIMIT = 1.000			GUIDELINE = 700 (G)			
JAN	1.000 <T	1.000 <T	.	1.000 <T	.	NDL	
FEB	1.000 <T	1.000 <T	.	1.000 <T	.	2.000 <T	
MAR	NDL	NDL	.	NDL	.	NDL	
APR	NDL	NDL	.	NDL	.	2.000 <T	
MAY	2.000 <T	1.000 <T	.	1.000 <T	.	NDL	
JUN	NDL	NDL	.	NDL	.	NDL	
JUL	NDL	2.000 <T	.	NDL	.	NDL	
AUG	NDL	2.000 <T	.	2.000 <T	.	2.000 <T	
SEP	1.000 <T	NDL	.	NDL	.	1.000 <T	
OCT	NDL	1.000 <T	.	NDL	.	NDL	
NOV	1.000 <T	1.000 <T	.	1.000 <T	.	1.000 <T	
DEC	NDL	NDL	.	INR	.	INR	

LINDANE (NG/L)	DET'N LIMIT = 1.000			GUIDELINE = 4000 (A1)			
JAN	NDL	NDL	.	NDL	.	NDL	
FEB	NDL	NDL	.	NDL	.	NDL	
MAR	NDL	NDL	.	NDL	.	NDL	
APR	NDL	NDL	.	NDL	.	NDL	
MAY	NDL	NDL	.	NDL	.	NDL	
JUN	NDL	NDL	.	NDL	.	NDL	
JUL	NDL	1.000 <T	.	NDL	.	NDL	
AUG	NDL	1.000 <T	.	NDL	.	NDL	
SEP	NDL	NDL	.	NDL	.	1.000 <T	
OCT	NDL	NDL	.	NDL	.	NDL	
NOV	1.000 <T	NDL	.	NDL	.	1.000 <T	
DEC	NDL	NDL	.	INR	.	INR	

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM ST THOMAS (ELGIN WSS) 1988

WATER TREATMENT PLANT			DISTRIBUTION SYSTEM			
SITE	RAW	TREATED	SITE 1		SITE 2	
TYPE			STANDING	FREE FLOW	STANDING	FREE FLOW

PHENOLICS						
PHENOLICS (UG/L)	)		DET'M LIMIT = 0.2		GUIDELINE = 2.00 (A3)	
JAN	BDL	BDL	.	.	.	.
FEB	BDL	BDL	.	.	.	.
MAR	BDL	BDL	.	.	.	.
APR	BDL	BDL	.	.	.	.
MAY	3.200 UCR	2.800 UCR	.	.	.	.
JUN	.800 <T	.600 <T	.	.	.	.
JUL	.600 <T	.400 <T	.	.	.	.
AUG	BDL	.400 <T	.	.	.	.
SEP	BDL	BDL	.	.	.	.
OCT	1.400	1.000 <T	.	.	.	.
NOV	.600 <T	.200 <T	.	.	.	.
DEC	1.000	1.000	.	.	.	.

TABLE 3

DRINKING WATER SURVEILLANCE PROGRAM ST THOMAS (ELGIN WSS) 1988

WATER TREATMENT PLANT				DISTRIBUTION SYSTEM		
SITE	RAW	TREATED	SITE 1	SITE 2		
TYPE			STANDING	FREE FLOW	STANDING	FREE FLOW

VOLATILES						
TOLUENE (UG/L)		DET'N LIMIT = .050		GUIDELINE = 24.0 (B4)		
JAN	1AW	1AW	.	1AW	.	1AW
APR	BDL	BDL	.	BDL	.	BDL
MAY	BDL	BDL	.	.050 <T	.	BDL
JUN	.050 <T	.050 <T	.	.050 <T	.	.050 <T
JUL	BDL	BDL	.	.100 <T	.	.100 <T
AUG	BDL	BDL	.	BDL	.	.050 <T
SEP	BDL	BDL	.	BDL	.	BDL
OCT	BDL	BDL	.	BDL	.	BDL
NOV	BDL	BDL	.	BDL	.	BDL
DEC	BDL	BDL	.	.050 <T	.	BDL

ETHYLBENZENE (UG/L)		DET'N LIMIT = .050		GUIDELINE = 2.4 (B4)		
JAN	1AW	1AW	.	1AW	.	1AW
APR	BDL	BDL	.	.050 <T	.	BDL
MAY	BDL	BDL	.	BDL	.	BDL
JUN	BDL	.100 <T	.	.050 <T	.	.150 <T
JUL	BDL	.050 <T	.	.100 <T	.	BDL
AUG	BDL	BDL	.	BDL	.	BDL
SEP	BDL	BDL	.	BDL	.	BDL
OCT	BDL	BDL	.	.100 <T	.	.100 <T
NOV	BDL	BDL	.	BDL	.	BDL
DEC	BDL	BDL	.	BDL	.	BDL

M-XYLENE (UG/L)		DET'N LIMIT = .100		GUIDELINE = 300 (B4)		
JAN	1AW	1AW	.	1AW	.	1AW
APR	BDL	BDL	.	BDL	.	BDL
MAY	BDL	BDL	.	BDL	.	BDL
JUN	BDL	BDL	.	BDL	.	.100 <T
JUL	BDL	BDL	.	BDL	.	BDL
AUG	BDL	BDL	.	BDL	.	.100 <T
SEP	BDL	BDL	.	BDL	.	BDL
OCT	BDL	BDL	.	BDL	.	BDL
NOV	BDL	BDL	.	BDL	.	BDL
DEC	BDL	BDL	.	BDL	.	BDL

O-XYLENE (UG/L)		DET'N LIMIT = .050		GUIDELINE = 300 (B4)		
JAN	1AW	1AW	.	1AW	.	1AW
APR	BDL	BDL	.	BDL	.	BDL
MAY	BDL	BDL	.	BDL	.	BDL
JUN	BDL	BDL	.	BDL	.	.050 <T

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM ST THOMAS (ELGIN WSS) 1968

SITE TYPE	WATER TREATMENT PLANT			DISTRIBUTION SYSTEM		
	RAW	TREATED	SITE 1	SITE 2		
				STANDING	FREE FLOW	
JUL	BDL	BDL	.	BDL	.	BDL
AUG	BDL	BDL	.	BDL	.	BDL
SEP	BDL	BDL	.	BDL	.	BDL
OCT	BDL	BDL	.	BDL	.	BDL
NOV	BDL	BDL	.	BDL	.	BDL
DEC	BDL	BDL	.	BDL	.	BDL
STYRENE (UG/L)		DET'M LIMIT = .050		GUIDELINE = 46.5 (D2)		
OCT	.200 <T	BDL	.	BDL	.	.200 <T
NOV	.200 <T	BDL	.	BDL	.	.100 <T
DEC	.050 <T	BDL	.	BDL	.	BDL
CHLOROFORM (UG/L)		DET'M LIMIT = .100		GUIDELINE = 350 (A1+)		
JAN	1AW	1AW	.	1AW	.	1AW
APR	BDL	22.300	.	25.100	.	19.400
MAY	BDL	28.200	.	24.500	.	23.200
JUN	BDL	25.200	.	21.800	.	21.100
JUL	1.200	24.100	.	22.700	.	16.700
AUG	.400 <T	26.600	.	24.900	.	22.300
SEP	.400 <T	24.000	.	23.700	.	21.800
OCT	BDL	19.800	.	21.100	.	19.400
NOV	BDL	16.100	.	18.800	.	19.300
DEC	BDL	18.500	.	17.200	.	17.600
111, TRICHLOROETHANE (UG/L)		DET'M LIMIT = .020		GUIDELINE = 200 (D1)		
JAN	1AW	1AW	.	1AW	.	1AW
APR	BDL	BDL	.	BDL	.	BDL
MAY	BDL	BDL	.	BDL	.	BDL
JUN	BDL	BDL	.	BDL	.	.120 <T
JUL	.060 <T	BDL	.	BDL	.	BDL
AUG	BDL	BDL	.	BDL	.	BDL
SEP	BDL	BDL	.	BDL	.	BDL
OCT	BDL	BDL	.	BDL	.	BDL
NOV	BDL	BDL	.	BDL	.	BDL
DEC	BDL	BDL	.	BDL	.	BDL
1,2 DICHLOROETHANE (UG/L)		DET'M LIMIT = .050		GUIDELINE = 5.0 (D1)		
JAN	1AW	1AW	.	1AW	.	1AW
APR	BDL	BDL	.	BDL	.	BDL
MAY	BDL	BDL	.	.100 <T	.	BDL
JUN	BDL	BDL	.	BDL	.	BDL

TABLE 3

DRINKING WATER SURVEILLANCE PROGRAM ST THOMAS (ELGIN WSS) 1988

SITE TYPE	WATER TREATMENT PLANT			DISTRIBUTION SYSTEM		
	RAW	TREATED	SITE 1	SITE 2		
				STANDING	FREE FLOW	
JUL	BDL	BDL	.	.	.300 <T	.100 <T
AUG	BDL	BDL	.	.	BDL	BDL
SEP	BDL	BDL	.	.	BDL	BDL
OCT	BDL	BDL	.	.	BDL	BDL
NOV	BDL	BDL	.	.	BDL	BDL
DEC	BDL	BDL	.	.	BDL	BDL
DICHLOROBROMOMETHANE (UG/L)		DET'M LIMIT = .050		GUIDELINE = 350 (A1+)		
JAN	1AM	1AM	.	1AM	.	1AM
APR	BDL	12.700	.	14.300	.	12.400
MAY	BDL	15.800	.	13.000	.	13.700
JUN	BDL	13.400	.	12.750	.	12.100
JUL	.500 <T	15.500	.	12.900	.	10.000
AUG	.400 <T	16.400	.	16.200	.	15.700
SEP	.400 <T	13.800	.	13.150	.	12.750
OCT	BDL	11.850	.	12.100	.	11.650
NOV	BDL	9.750	.	12.300	.	12.050
DEC	BDL	12.200	.	11.600	.	12.200
CHLORODIBROMOMETHANE (UG/L)		DET'M LIMIT = .100		GUIDELINE = 350 (A1+)		
JAN	1AM	1AM	.	1AM	.	1AM
APR	BDL	5.700	.	6.900	.	7.900
MAY	BDL	6.400	.	6.000	.	6.400
JUN	BDL	5.500	.	5.300	.	5.300
JUL	.200 <T	4.700	.	6.900	.	3.800
AUG	.100 <T	6.600	.	6.900	.	10.800
SEP	.100 <T	6.800	.	5.700	.	5.700
OCT	BDL	6.300	.	6.500	.	7.000
NOV	BDL	4.500	.	5.400	.	5.600
DEC	BDL	5.800	.	5.600	.	6.600
T-CHLOROETHYLENE (UG/L)		DET'M LIMIT = .050		GUIDELINE = 10.0 (C2)		
JAN	1AM	1AM	.	1AM	.	1AM
APR	BDL	BDL	.	BDL	.	BDL
MAY	BDL	BDL	.	BDL	.	BDL
JUN	BDL	BDL	.	BDL	.	BDL
JUL	BDL	BDL	.	.100 <T	.	BDL
AUG	BDL	BDL	.	BDL	.	BDL
SEP	BDL	BDL	.	BDL	.	BDL
OCT	BDL	BDL	.	BDL	.	BDL
NOV	BDL	BDL	.	BDL	.	BDL
DEC	BDL	BDL	.	BDL	.	BDL

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM ST THOMAS (ELGIN WSS) 1988

WATER TREATMENT PLANT					DISTRIBUTION SYSTEM	
SITE TYPE	RAW	TREATED	SITE 1		SITE 2	
			STANDING	FREE FLOW	STANDING	FREE FLOW
BROMOFORM (UG/L)		DET'N LIMIT = .200		GUIDELINE = 350 (A1+)		
JAN	IAW	IAW	.	IAW	.	IAW
APR	BDL	.600 <T	.	.600 <T	.	.600 <T
MAY	BDL	.200 <T	.	BDL	.	.400 <T
JUN	BDL	.400 <T	.	.400 <T	.	.400 <T
JUL	BDL	.200 <T	.	.400 <T	.	.200 <T
AUG	BDL	.400 <T	.	.600 <T	.	.600 <T
SEP	BDL	.600 <T	.	.600 <T	.	.600 <T
OCT	BDL	.400 <T	.	.400 <T	.	.600 <T
NOV	BDL	.400 <T	.	.600 <T	.	.600 <T
DEC	BDL	.600 <T	.	.600 <T	.	.600 <T
TOTL TRINALOMETHANES (UG/L)		DET'N LIMIT = .500		GUIDELINE = 350 (A1)		
JAN	IAW	IAW	.	IAW	.	IAW
APR	BDL	41.300	.	46.900	.	40.300
MAY	BDL	50.600	.	43.500	.	43.700
JUN	BDL	44.500	.	40.250	.	39.000
JUL	1.900 <T	44.500	.	42.900	.	30.700
AUG	.900 <T	50.000	.	48.600	.	49.400
SEP	.900 <T	45.200	.	43.150	.	40.850
OCT	BDL	38.350	.	40.100	.	38.650
NOV	BDL	30.750	.	37.100	.	37.550
DEC	BDL	37.100	.	35.000	.	37.000

Table 6

SCAN/PARAMETER	UNIT	DETECTION	
		LIMIT	GUIDELINE
BACTERIOLOGICAL			
STANDARD PLATE COUNT MEMBRANE FILTRATION	CT/ML	0	500/ML(A1)
P/A BOTTLE		0	0 (A1*)
TOTAL COLIFORM MEMBRANE FILTRATION	CT/100ML	0	5/100mL(A1)
TOTAL COLIFORM BACKGROUND MF	CT/100ML	0	N/A
CHLOROAROMATICS			
HEXACHLOROBUTADIENE	NG/L	1.000	450. (D4)
1,2,3-TRICHLOROBENZENE	NG/L	5.000	10000 (I)
1,2,3,4-TETRACHLOROBENZENE	NG/L	1.000	10000 (I)
1,2,3,5-TETRACHLOROBENZENE	NG/L	1.000	10000 (I)
1,2,4-TRICHLOROBENZENE	NG/L	5.000	10000 (I)
1,2,4,5-TETRACHLOROBENZENE	NG/L	1.000	38000 (D4)
1,3,5-TRICHLOROBENZENE	NG/L	5.000	10000 (D4)
HEXACHLOROBENZENE	NG/L	1.0	10. (C1)
HEXACHLOROETHANE	NG/L	1.000	1900. (D4)
OCTACHLOROSTYRENE	NG/L	1.000	N/A
PENTACHLOROBENZENE	NG/L	1.000	74000 (D4)
2,3,6-TRICHLOROTOLUENE	NG/L	5.000	N/A
2,4,5-TRICHLOROTOLUENE	NG/L	5.000	N/A
2,6,A-TRICHLOROTOLUENE	NG/L	5.000	N/A
CHLOROPHENOLS			
2,3,4-TRICHLOROPHENOL	NG/L	50.	N/A
2,3,4,5-TETRACHLOROPHENOL	NG/L	50.	N/A
2,3,5,6-TETRACHLOROPHENOL	NG/L	50.	N/A
2,4,5-TRICHLOROPHENOL	NG/L	50.	2600000 (D4)
2,4,6-TRICHLOROPHENOL	NG/L	50.	5000. (B1)
PENTACHLOROPHENOL	NG/L	50.	60000. (B1)
CHEMISTRY (FLD)			
FIELD COMBINED CHLORINE RESIDUAL	MG/L	N/A	N/A
FIELD FREE CHLORINE RESIDUAL	MG/L	N/A	N/A
FIELD TOTAL CHLORINE RESIDUAL	MG/L	N/A	N/A
FIELD PH	DMSNLESS	N/A	6.5-8.5(A4)
FIELD TEMPERATURE	°C	N/A	<15 °C(A1)
FIELD TURBIDITY	FTU	N/A	1.0 (A1)
CHEMISTRY (LAB)			
ALKALINITY	MG/L	.200	30-500(A4)
CALCIUM	MG/L	.100	100. (F2)
CYANIDE	MG/L	.001	.20(A1)
CHLORIDE	MG/L	.200	250. (A3)
COLOUR	TCU	.5	5.0 (A3)
CONDUCTIVITY	UMHO/CM	1.	400. (F2)
FLUORIDE	MG/L	.01	2.4 (A1)
HARDNESS	MG/L	.50	80-100(A4)
MAGNESIUM	MG/L	.05	30. (F2)

SCAN/PARAMETER	UNIT	DETECTION LIMIT	GUIDELINE
NITRITE	MG/L	.001	1.0 (A1)
TOTAL NITRATES	MG/L	.02	10. (A1)
NITROGEN TOTAL KJELDAHL	MG/L	.02	N/A
PH	DMSNLESS	N/A	6.5-8.5 (A4)
PHOSPHORUS FIL REACT	MG/L	.0005	N/A
PHOSPHORUS TOTAL	MG/L	.002	.40 (F2)
TOTAL SOLIDS	MG/L	1.	500. (A3)
TURBIDITY	FTU	.02	1.0 (A1)

METALS

ALUMINUM	UG/L	.050	100. (A4)
ANTIMONY	UG/L	.050	146. (D4)
ARSENIC	UG/L	.050	50. (A1)
BARIUM	UG/L	.020	1000. (A1)
BORON	UG/L	.200	5000. (A1)
BERYLLIUM	UG/L	.010	0.20 (H)
CADMIUM	UG/L	.050	5.0 (A1)
COBALT	UG/L	.020	1000. (H)
CHROMIUM	UG/L	.100	50. (A1)
COPPER	UG/L	.100	1000. (A3)
IRON	UG/L	5.0	300. (A3)
MERCURY	UG/L	.01	1.0 (A1)
MANGANESE	UG/L	.050	50. (A3)
MOLYBDENUM	UG/L	.020	500. (H)
NICKEL	UG/L	.100	50. (F3)
LEAD	UG/L	.020	50. (A1)
SELENIUM	UG/L	.200	10. (A1)
SILVER	UG/L	.020	50. (A1)
STRONTIUM	UG/L	.100	2000. (H)
THALLIUM	UG/L	.010	13. (D4)
TITANIUM	UG/L	.100	N/A
URANIUM	UG/L	.020	20. (A2)
VANADIUM	UG/L	.020	100. (H)
ZINC	UG/L	.020	5000. (A3)

PHENOLICS

PHENOLICS (UNFILTERED REACTIVE)	UG/L	.2	2.0 (A3)
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PESTICIDES & PCB

ALDRIN	NG/L	1.0	700. (A1)
AMETRINE	NG/L	50.	300000. (D3)
ATRAZINE	NG/L	50.	60000. (B3)
ALPHA HEXACHLOROCYCLOHEXANE (BHC)	NG/L	1.0	700. (G)
BETA HEXACHLOROCYCLOHEXANE (BHC)	NG/L	1.0	300. (G)
GAMMA HEXACHLOROCYCLOHEXANE (LINDANE)	NG/L	1.0	4000. (A1)
ALPHA CHLORDANE	NG/L	2.0	7000. (A1)
GAMMA CHLORDANE	NG/L	2.0	7000. (A1)
BLADIX	NG/L	100.	10000. (B3)
DIELDRIN	NG/L	2.0	700. (A1)
METHOXYCHLOR	NG/L	5.0	100000. (A1)
ENDOSULFAN 1 (THIODAN I)	NG/L	2.0	74000. (D4)
ENDOSULFAN 2 (THIODAN II)	NG/L	4.0	74000. (D4)
ENDRIN	NG/L	4.0	200. (A1)
ENDOSULFAN SULPHATE (THIODAN SULPHATE)	NG/L	4.0	N/A
HEPTACHLOR EPOXIDE	NG/L	1.0	3000. (A1)

SCAN/PARAMETER	DETECTION		
	UNIT	LIMIT	GUIDELINE
HEPTACHLOR	NG/L	1.0	3000. (A1)
METOLACHLOR	NG/L	500.	50000. (B3)
MIREX	NG/L	5.0	N/A
OXYCHLORDANE	NG/L	2.0	N/A
O,P-DDT	NG/L	5.0	30000. (A1)
PCB	NG/L	20.0	3000. (A2)
O,P-DDD	NG/L	5.0	N/A
PPDDE	NG/L	1.0	30000. (A1)
PPDDT	NG/L	5.0	30000. (A1)
ATRATONE	NG/L	50.	N/A
ALACHLOR	NG/L	500.	35000. (D2)
PROMETONE	NG/L	50.	52500. (D3)
PROPACINE	NG/L	50.	16000. (D2)
PROMETRYNE	NG/L	50.	1000. (B3)
SENCOR (METRIBUZIN)	NG/L	100.	80000. (B2)
SIMAZINE	NG/L	50.	10000. (B3)

POLYAROMATIC HYDROCARBONS

PHENANTHRENE	NG/L	10.0	N/A
ANTHRACENE	NG/L	1.0	N/A
FLUORANTHENE	NG/L	20.0	42000. (D4)
PYRENE	NG/L	20.0	N/A
BENZO(A)ANTHRACENE	NG/L	20.0	N/A
CHRYSENE	NG/L	50.0	N/A
DIMETHYL BENZO(A)ANTHRACENE	NG/L	5.0	N/A
BENZO(E)PYRENE	NG/L	50.0	N/A
BENZO(B)FLUORANTHENE	NG/L	10.0	N/A
PERYLENE	NG/L	10.0	N/A
BENZO(K)FLUORANTHENE	NG/L	1.0	N/A
BENZO(A)PYRENE	NG/L	5.0	10. (B1)
BENZO(G,H,I)PERYLENE	NG/L	20.0	N/A
DIBENZO(A,H)ANTHRACENE	NG/L	10.0	N/A
INDENO(1,2,3-C,D)PYRENE	NG/L	20.0	N/A
BENZO(B)CHRYSENE	NG/L	2.0	N/A
CORONENE	NG/L	10.0	N/A

SPECIFIC PESTICIDES

TOXAPHENE	NG/L	N/A	5000. (A1)
2,4,5-TRICHLOROBUTYRIC ACID (2,4,5-T)	NG/L	50.	280000. (B1)
2,4-DICHLOROBUTYRIC ACID (2,4-D)	NG/L	100.	100000. (A1)
2,4-DICHLOROPHENOXYBUTYRIC ACID	NG/L	200.	18000. (B3)
2,4-D PROPIONIC ACID	NG/L	100.	N/A
DICAMBA	NG/L	100.	87000. (B3)
PICHLORAM	NG/L	100.	2450000. (D3)
SILVEX (2,4,5-TP)	NG/L	50.	10000. (A1)
DIAZINON	NG/L	20.	14000. (A1)
DICHLOROVOS	NG/L	20.	N/A
DURSBAN	NG/L	20.	N/A
ETHION	NG/L	20.	35000. (G)
GUTHION	NG/L	N/A	N/A
MALATHION	NG/L	20.	160000. (G)
MEVINPHOS	NG/L	20.	N/A
METHYL PARATHION	NG/L	50.	7000. (B3)
METHYLTRITHION	NG/L	20.	N/A
PARATHION	NG/L	20.	35000. (B1)

<u>SCAN/PARAMETER</u>	<u>DETECTION</u>		
	<u>UNIT</u>	<u>LIMIT</u>	<u>GUIDELINE</u>
PHORATE (THIMET)	NG/L	20.	35. (D2)
RELDAN	NG/L	20.	N/A
RONNEL	NG/L	20.	N/A
AMINOCARB	NG/L	N/A	N/A
BENONYL	NG/L	N/A	N/A
BUX (METALKAMATE)	NG/L	2000.	N/A
CARBOFURAN	NG/L	2000.	18000. (D3)
CICP (CHLORPROPHAM)	NG/L	2000.	350000. (G)
DIALATE	NG/L	2000.	30000. (H)
EPTAM	NG/L	2000.	N/A
IPC	NG/L	2000.	N/A
PROPOXUR (BAYGON)	NG/L	2000.	90000. (G)
SEVIN (CARBARYL)	NG/L	200.	70000. (A1)
SUTAN (BUTYLATE)	NG/L	2000.	245000. (D3)

VOLATILES

BENZENE	UG/L	.050	5.0 (B1)
TOLUENE	UG/L	.050	24.0 (B4)
ETHYLBENZENE	UG/L	.050	2.4 (B4)
PARA-XYLENE	UG/L	.100	300. (B4)
META-XYLENE	UG/L	.100	300. (B4)
ORTHO-XYLENE	UG/L	.050	300. (B4)
1,1-DICHLOROETHYLENE	UG/L	.100	7.0 (D1)
ETHYLENE DIBROMIDE	UG/L	.05	50. (G)
METHYLENE CHLORIDE	UG/L	.500	1750. (D3)
TRANS-1,2-DICHLOROETHYLENE	UG/L	.100	350. (D3)
1,1-DICHLOROETHANE	UG/L	.100	N/A
CHLOROFORM	UG/L	.100	350. (A1+)
1,1,1-TRICHLOROETHANE	UG/L	.020	200. (D1)
1,2-DICHLOROETHANE	UG/L	.050	5.0 (D1)
CARBON TETRACHLORIDE	UG/L	.200	5.0 (D1)
1,2-DICHLOROPROPANE	UG/L	.050	10.0 (G)
TRICHLOROETHYLENE	UG/L	.100	5.0 (D1)
DICHLOROBROMOMETHANE	UG/L	.050	350. (A1+)
1,1,2-TRICHLOROETHANE	UG/L	.050	.60 (D4)
CHLORODIBROMOMETHANE	UG/L	.100	350. (A1+)
TETRACHLOROETHYLENE	UG/L	.050	10.0 (C2)
BROMOFORM	UG/L	.200	350. (A1+)
1,1,2,2-TETRACHLOROETHANE	UG/L	.050	0.17 (D4)
CHLOROBENZENE	UG/L	.100	1510. (D3)
1,4-DICHLOROBENZENE	UG/L	.100	5.0 (B1)
1,3-DICHLOROBENZENE	UG/L	.100	130. (G)
1,2-DICHLOROBENZENE	UG/L	.050	200. (B1)
TRIFLUOROCHLOROTOLUENE	UG/L	.100	N/A
TOTAL TRIHALOMETHANES	UG/L	.500	350. (A1)
STYRENE	UG/L	.05	46.5 (D2)